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BOSTON UNIVERSITY SCHOOL OF EDUCATION

THESIS

HIGH SCHOOL STUDY HALLS

submitted by

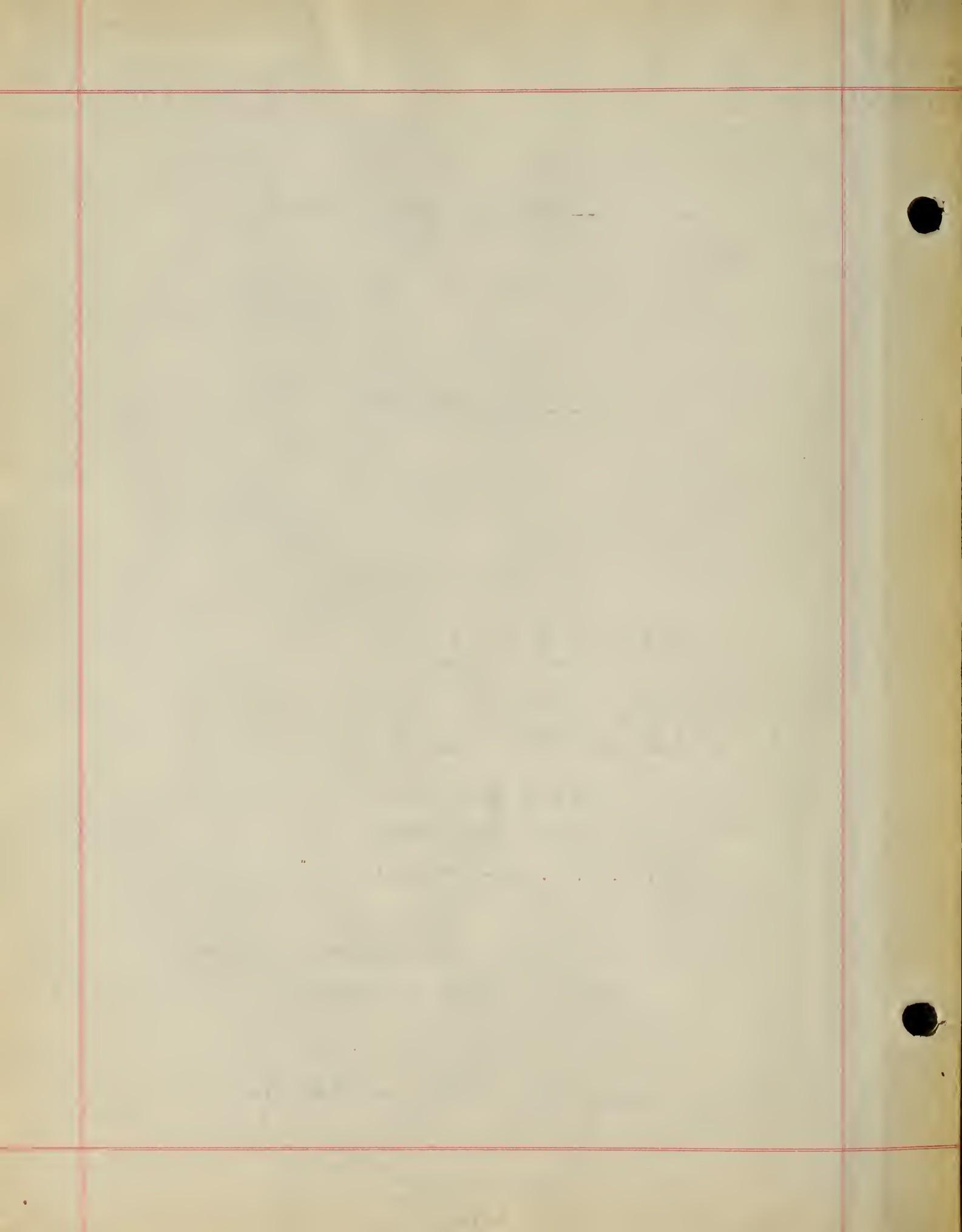
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In partial fulfillment of requirements for the
degree of Master of Education

1933

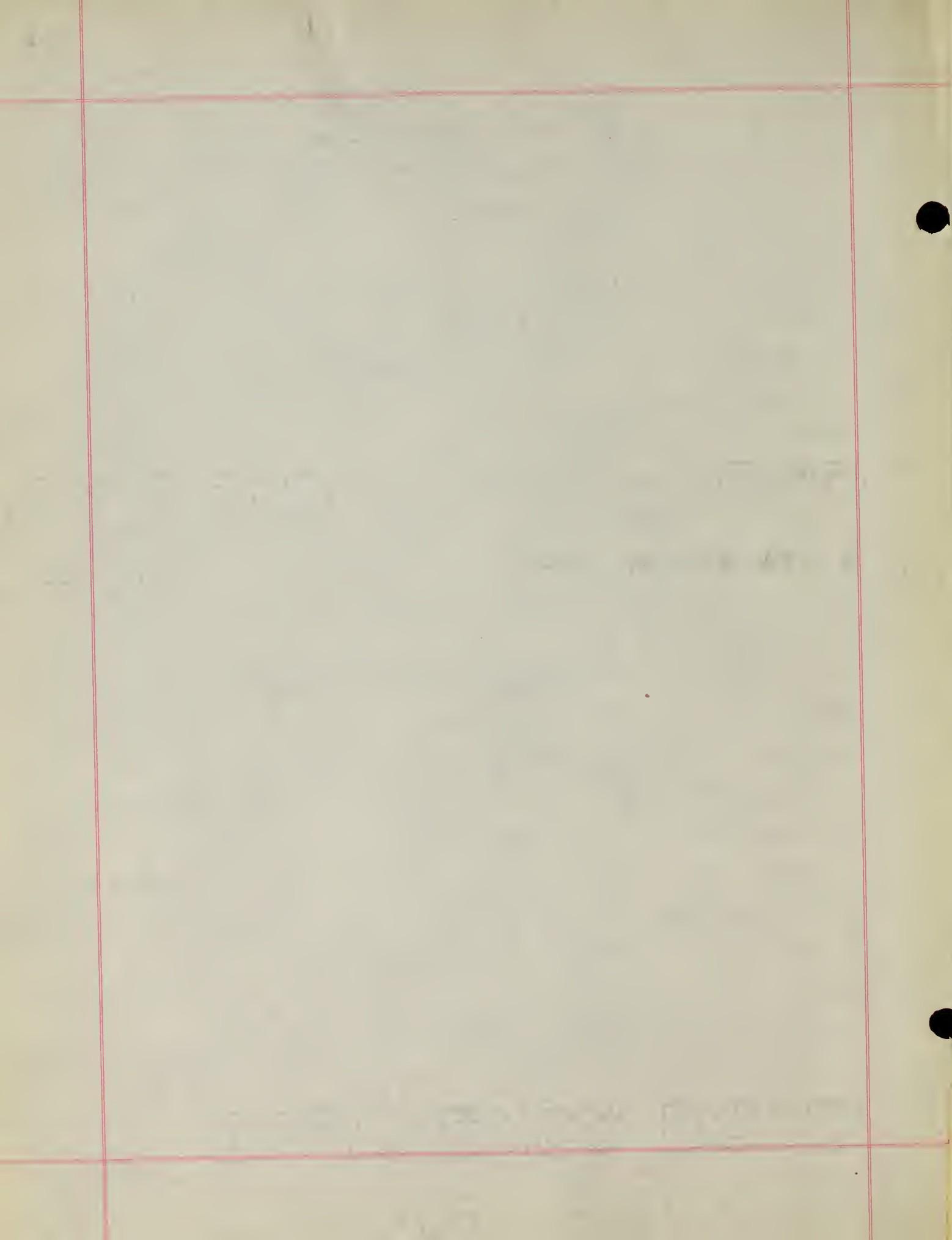
First Reader: Herbert Blair, Professor of Education
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THE HIGH SCHOOL STUDY HALL

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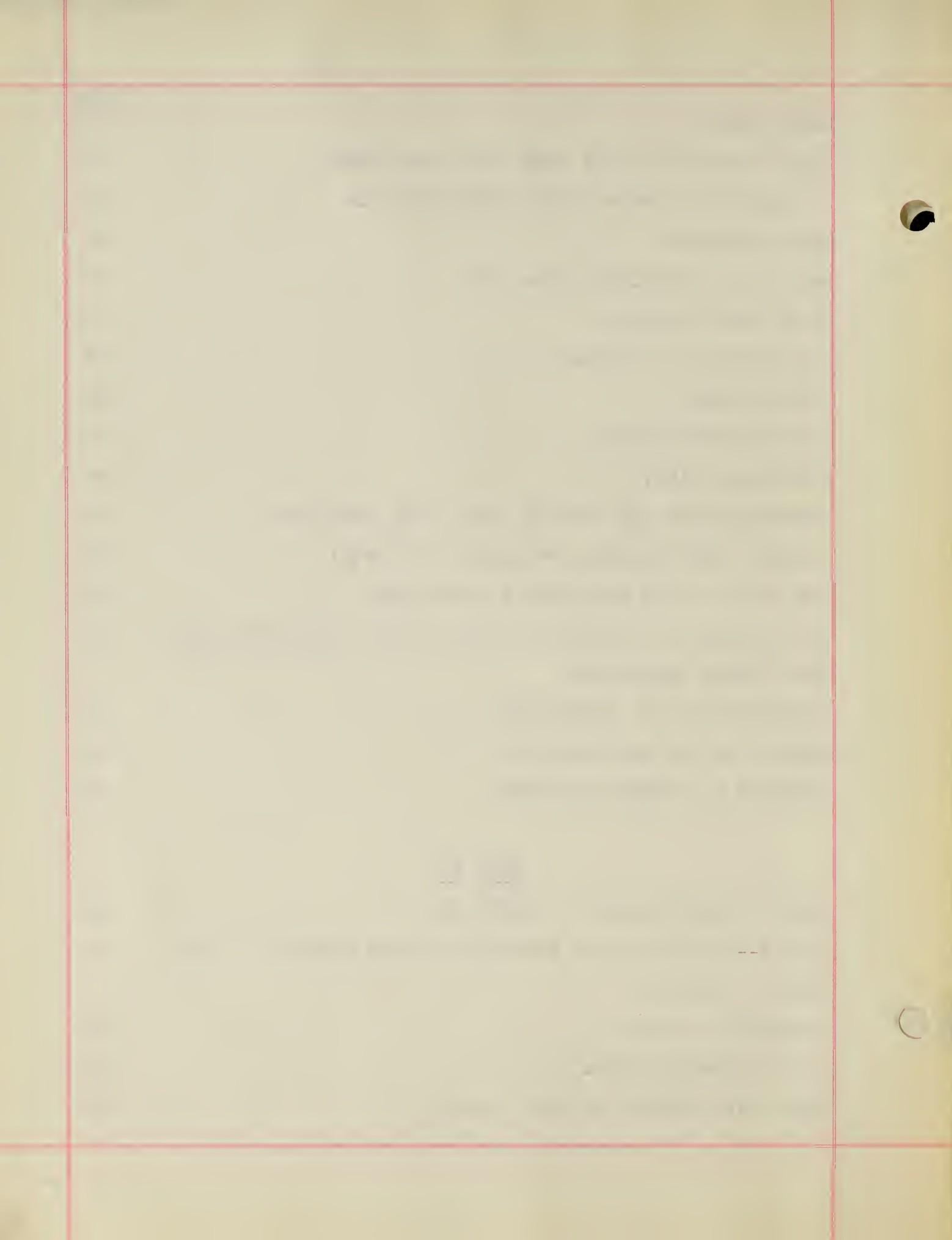
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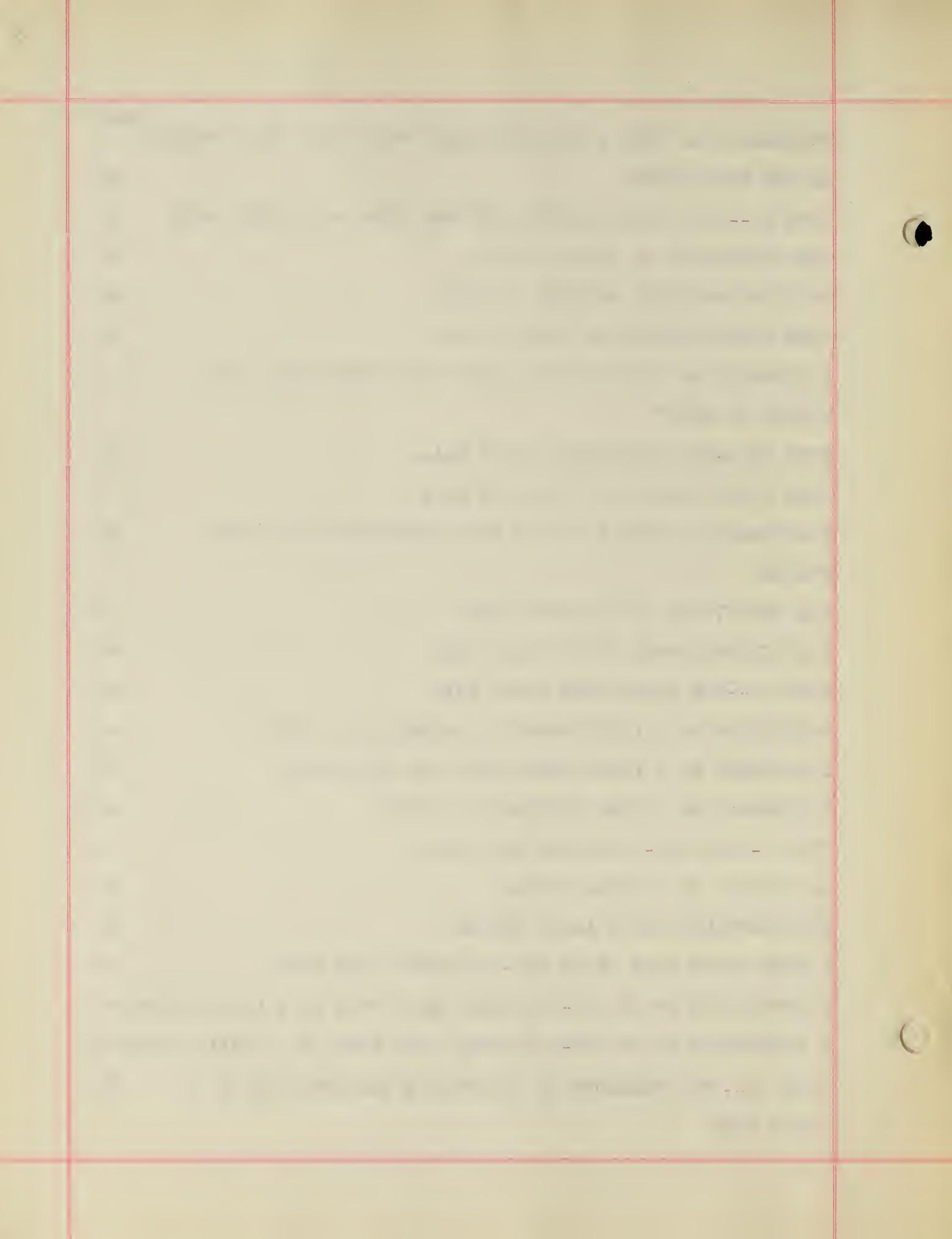
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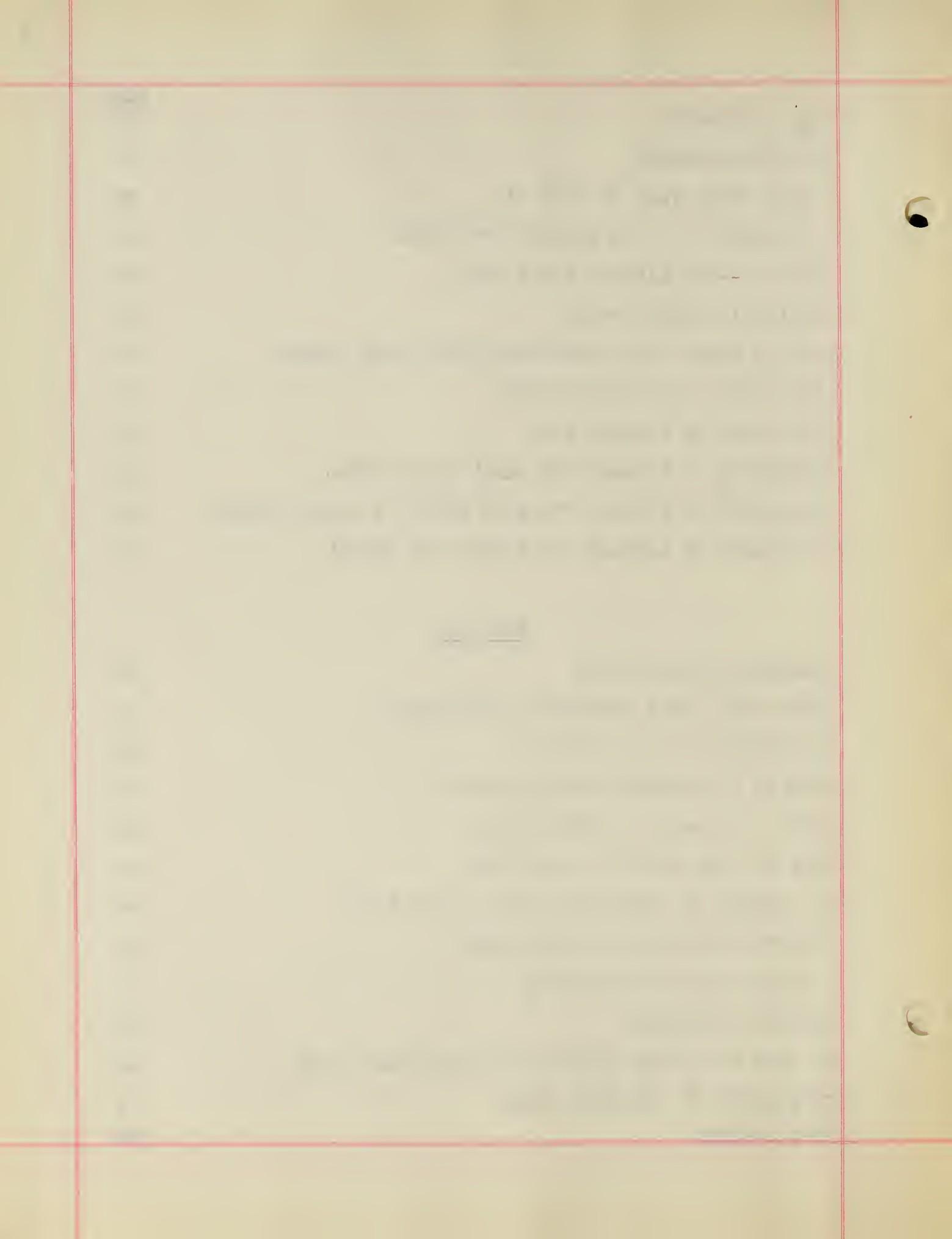
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INTRODUCTION

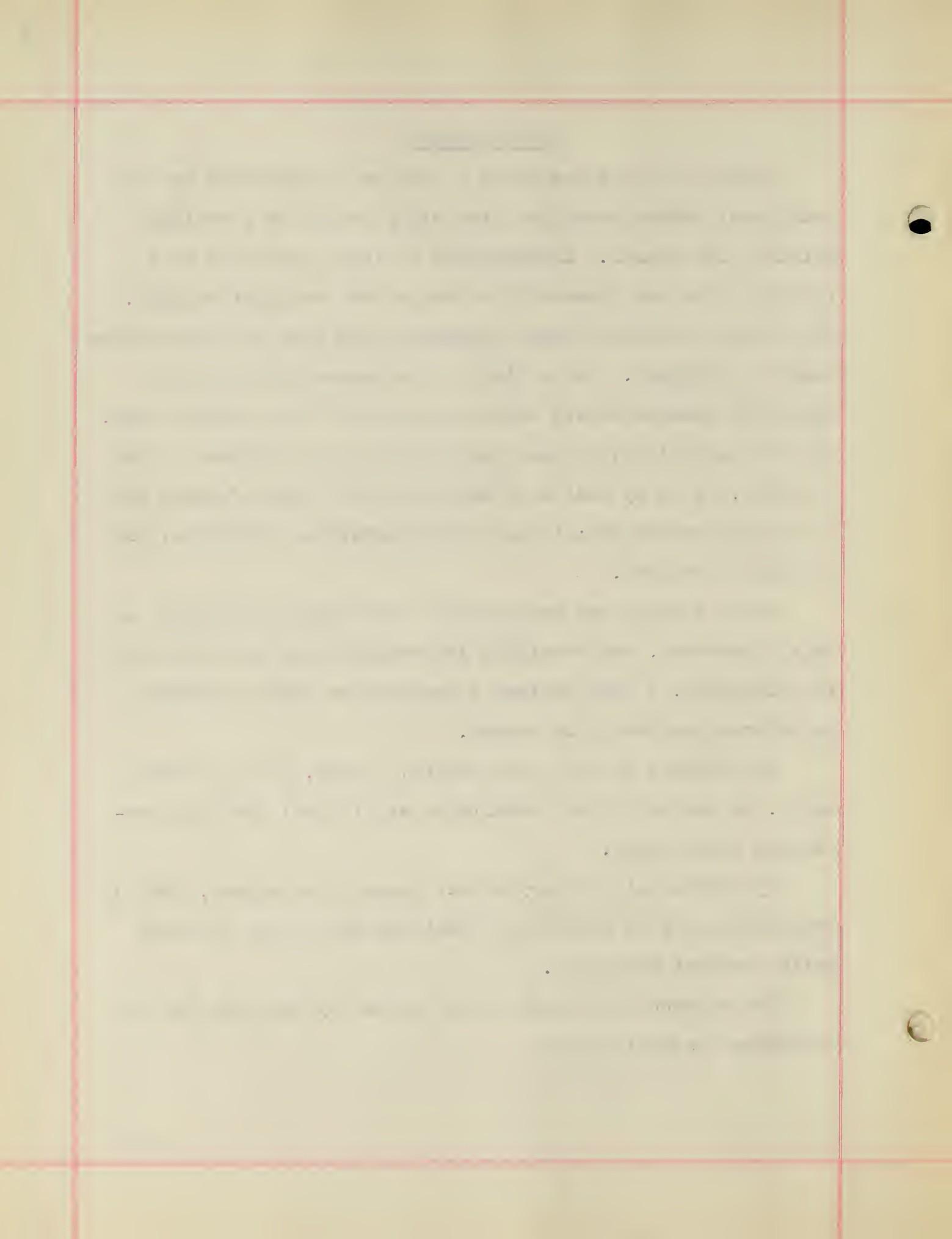
During the past few years I have had confronting me the problem of making room for extra study pupils in a rapidly growing high school. Although the building was built by a reliable firm and planned by a recognized architect in 1924, the present conditions make necessary some plan for study other than the original. So in view of the necessity for action caused by unsatisfactory study conditions at the present time, and the possibility of the construction of an addition to the building, it is my desire to determine what type of study hall is in most common use; is most satisfactory to educators; and is most economical.

After sending the questionnaire blank shown on page 15 of this discussion, and receiving 195 replies from the 280 mailed to principals, I have decided to abandon the idea of gaining my information from this source.

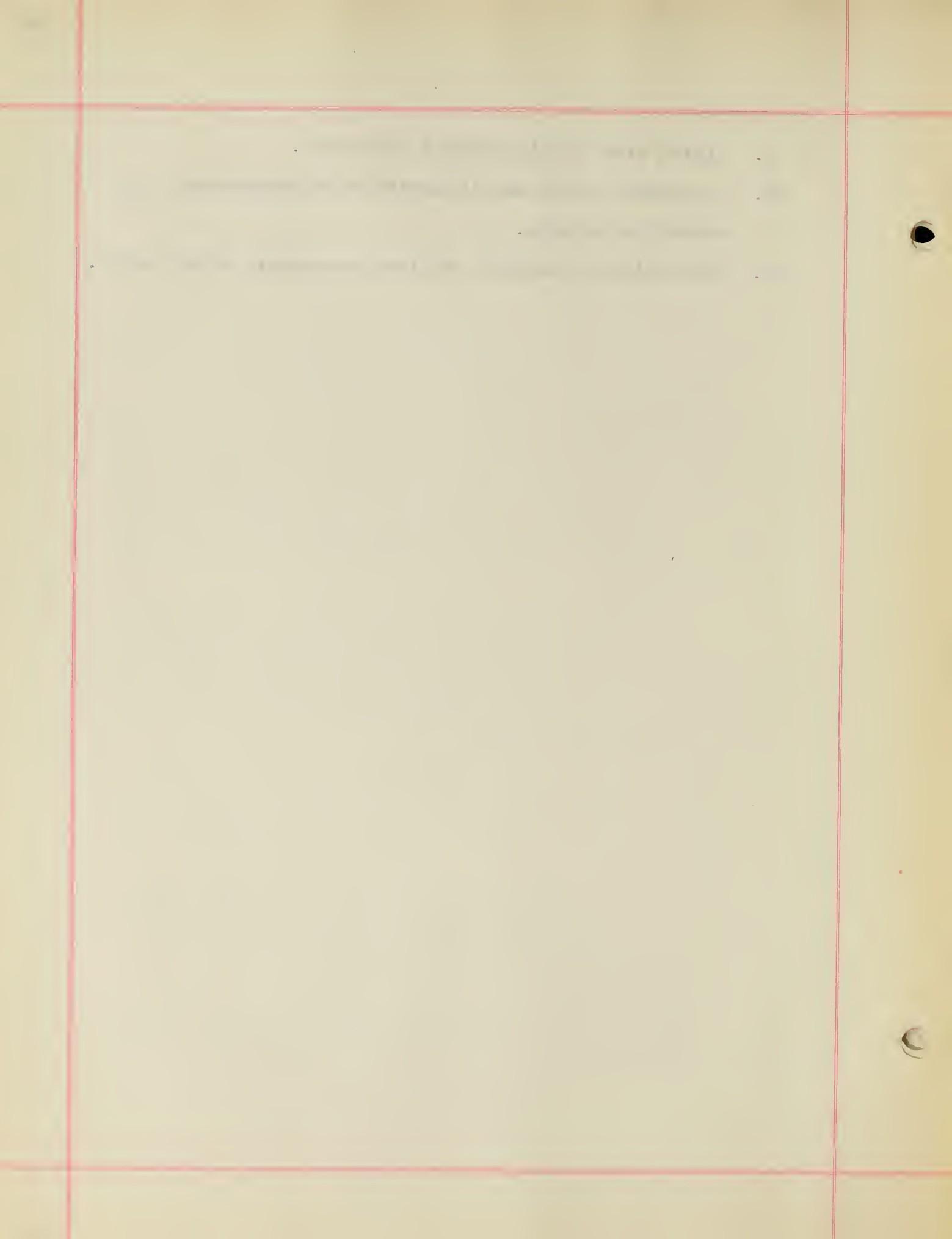
The answers to the questionnaire, I find, are of little value, on account of not permitting any logical decision concerning study halls.

My problem at the very outset takes a new aspect, that of evaluating data in addition to deciding what types of study halls are most efficient.

The sources from which I have gained my material for the following discussion are:



1. Visits made to high school buildings.
2. A personal visit and interview with experienced high school principals.
3. The available material written concerning study halls.



THE PURPOSE OF STUDY HALLS.

The ability to study effectively, to acquire facts with the maximum speed and the minimum effort, to choose correctly between essentials and non-essentials, and to use facts effectively is of great importance.

The task of teaching the child to study is too important a matter not to be considered as one of the main objectives of any educational system, and only when external conditions are nearly satisfactory is this possible.

The most satisfactory results in all lines of endeavor are usually the outcome of effort expended under the most favorable conditions.

A REGULAR TIME AND PLACE FOR STUDY.

"The worker should make it a point to form a definite time and place habit." This means that when a certain time of day comes he will be in this place, ready to apply himself promptly and fully to his work. No loafing must be done in a place dedicated to study. When regular habit has become fixed, one needs only to take his place to arouse the proper mental attitude required for study.

By having a regular place for his tasks, the student is not likely to get behind in his work. He also begins more easily when it is time to start, and then it is easier to concentrate fully on his work if conditions do not distract and annoy his physical well being.

It is important, therefore, for a student to have time and place to work that is reasonably free from interruptions and distracting conversations.

Study demands active attention. Everything that happens in the room where he is working makes a claim on his attention. If there are noises or other distractions, a part of his energy must be exerted to keep his attention and mind focused on his work.

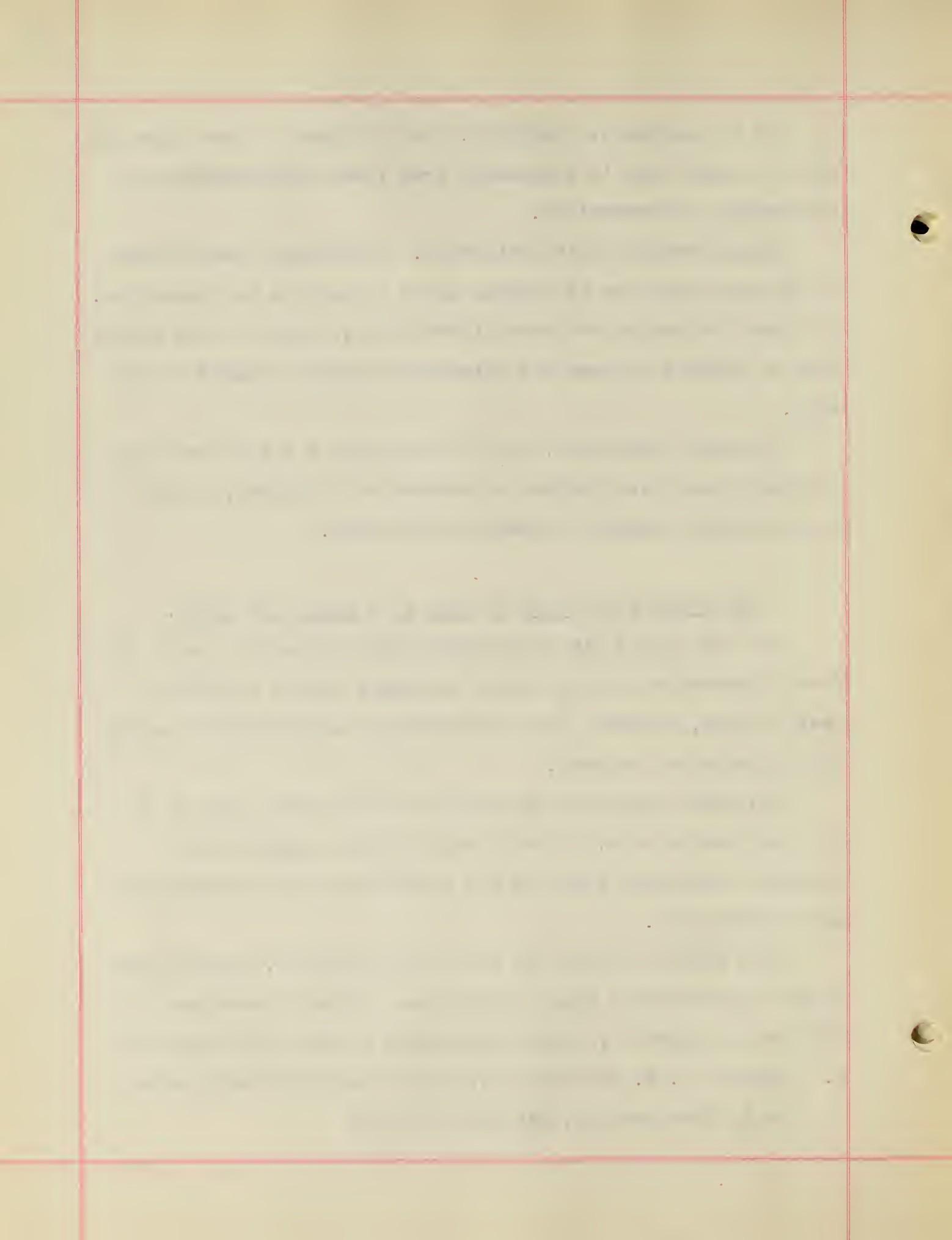
It seems, therefore, that if he works in a room where the outside appeals are lacking or reduced to a minimum, he will have much more energy to devote to his work.

THE PUPIL'S OWN ROOM AT HOME AS A PLACE FOR STUDY.

Not all pupils can be provided with a place for study free from distractions, and properly equipped, but it is well to bear in mind, however, that circumstances under which we study do influence our success.

The ideal place for any pupil to do his best work is in his own room at home, if it is well lighted, heated, and properly furnished, where he can retire from all interruptions and distractions. 1

This ideal condition is not always possible, because many pupils do not have a room of their own. Even if such home conditions are possible, time is generally lacking on account of
1. Johnson, M. E. Providing Periods of Quiet in Study Halls



work or recreation, so in many cases the reasonably good study opportunity at school is far better than any offered at home.

Pupils should have their program cards arranged with at least one period as a free period. Each pupil should have the opportunity to do his independent thinking under conditions that are productive of pupil advancement.

STUDY HALL STANDARDS.

Study hall standards, to be recognized, must be defined by statute laws or exist as the published opinion of accepted experts in the particular field under consideration.

STANDARDS SET UP BY LAW.

At the present time those laws that affect study hall construction come from an effort to regulate the proportions of other named school rooms, rather than to set study hall standards.

Class rooms are limited in size, the kind of lighting is prescribed, the number of pupils is given as well as floor space and cubical content, but in very few instances are such definite standards set up for study halls.¹

This fact is probably due to the lack of as much attention being paid to study pupils in the past as there was to those pupils reciting. The study hall has lacked provision for its successful existence more than any other kind of room that has

1. Determined by an examination of school laws of fifteen states

been in use the same length of time. In a visit to sixteen high school buildings built before 1916, class room arrangement and size were noted as very similar, while study halls had little similarity in size or arrangement for the same school population.

STANDARDS PRESCRIBED BY EXPERTS.

More attempt has been made on the part of educational experts to establish study standards than has been made by legal forces.

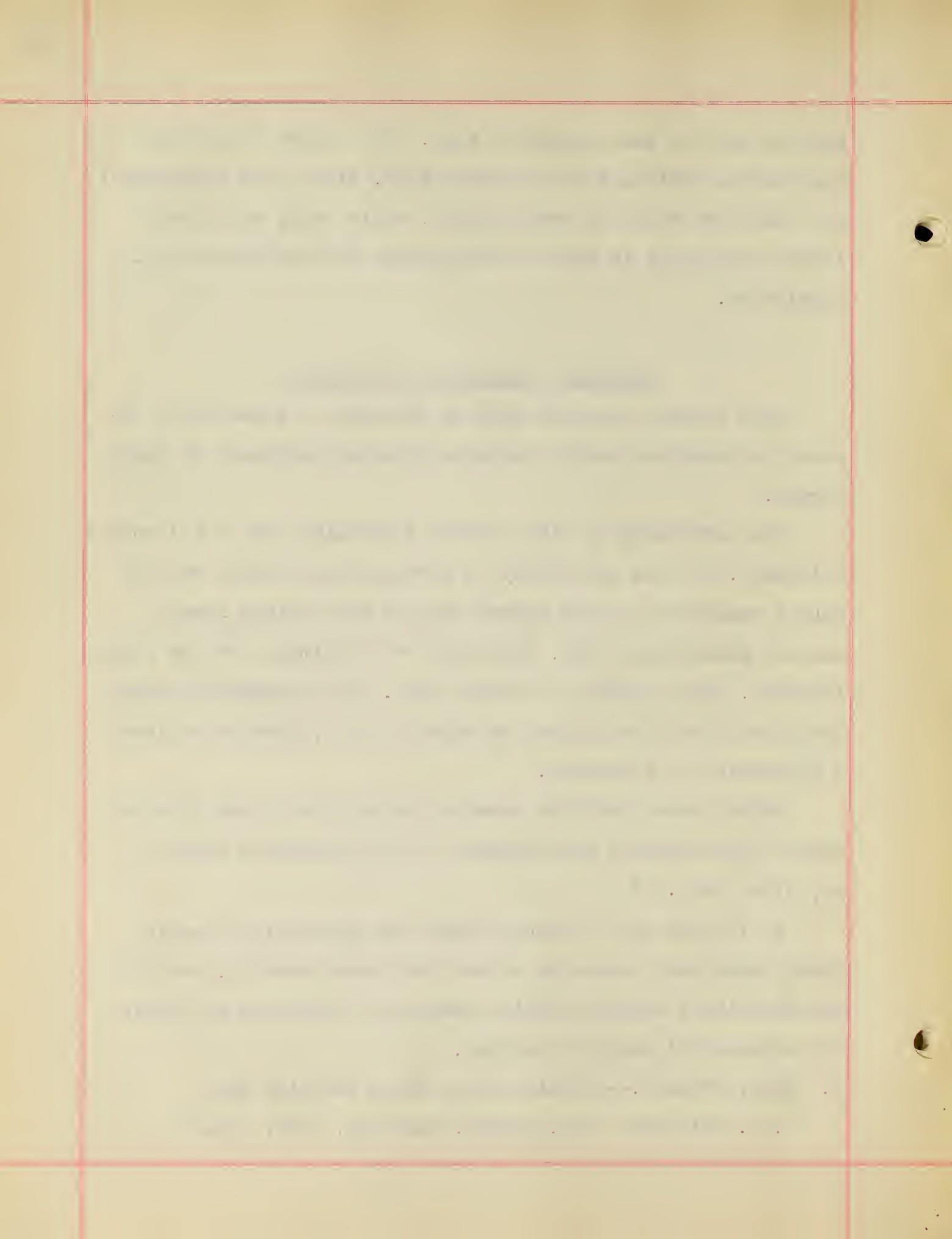
The uniformity in class rooms is readily seen in all modern buildings, and the uniformity is particularly evident when we make a comparison of the school laws of the various states enacted since about 1920, when experts definitely set the size, location, and equipment of study halls. More especially since architects have been guided by expert advice, have we noticed a conformity to standards.

School house building codes of recent years have incorporated the study hall requirements as prominently as those of any other room. 1

It is true that advanced ideas and necessarily changing ideals make most standards of but few years duration, but without definitely stated building codes our foundation and basis for advancement would be lacking.

1. Hart, Frank L.--A State School House Building Code

C. F. Williams & Son, Albany, New York, 1925, page 6



STUDY HALL UTILIZATION.

The most economical school room for any community to build, is the room that can be utilized to nearest 100%. 1

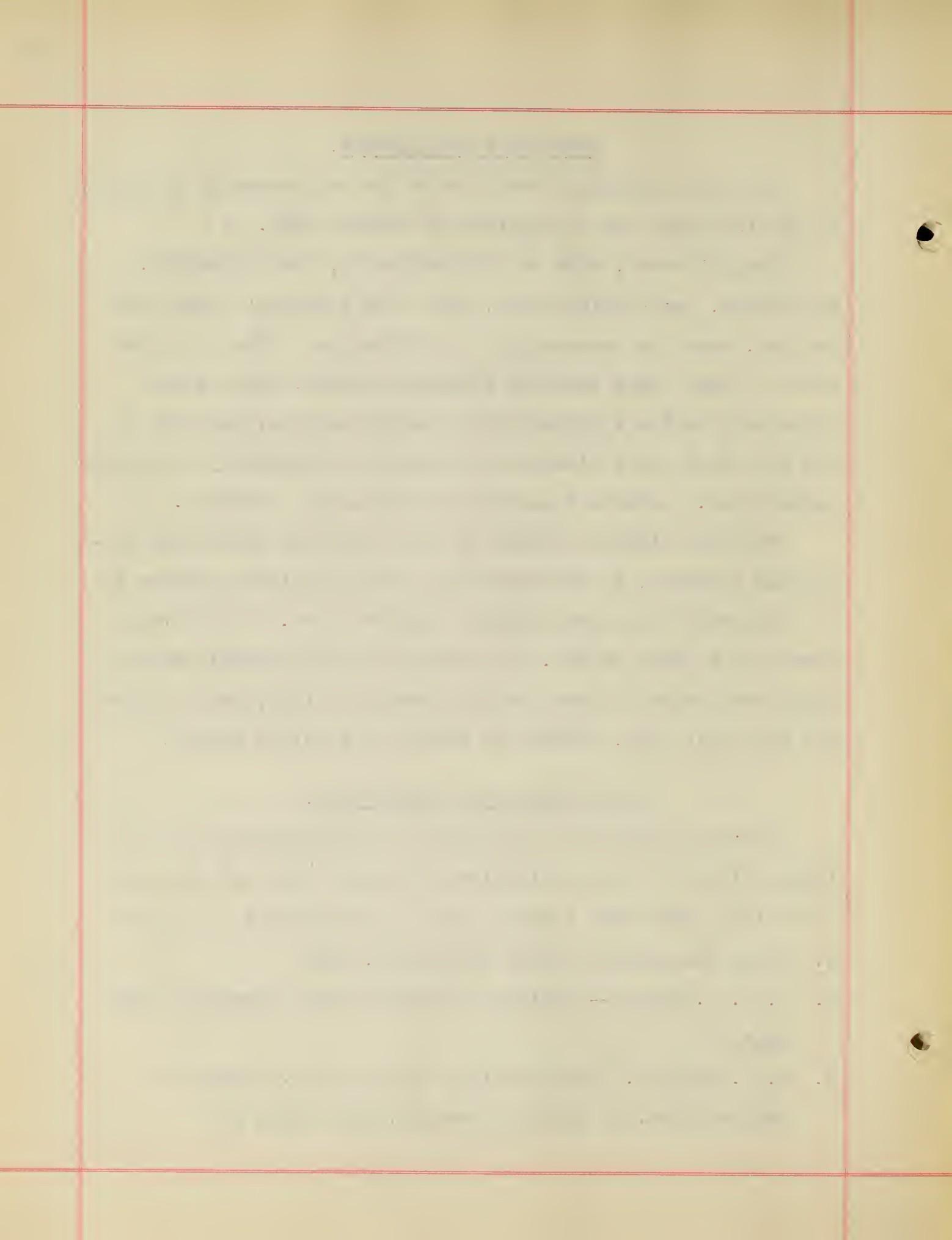
Special rooms, such as the auditorium, the laboratory, wood shops, and cooking rooms, where the equipment allows but one use, have low percentages of utilization. This is on account of many pupil stations remaining vacant, while class rooms with pupils studying in the vacant seats at the rear of the room with the recitation in progress, necessarily have high percentages. Educators generally condemn this practice. 2

The most highly utilized of all recognized rooms when considered together, is the study hall, whose seating capacity is in conformation to some standard building code. Some surveys give this as high as 87%. 3 But this is not possible when a large auditorium or lunch room is used for study, nor with the old time main room, capable of seating the entire school.

HOW TO DETERMINE UTILIZATION.

In many schools the percentage of utilization by room is 100% exclusive of the auditorium and lunch room, but this may, in reality, mean that a small part of the building is in use,

1. Class Discussion, Boston University, 1932
2. N. E. A. Report--Committee on School House Planning, 1925,
page 55
3. E. L. Morphet, School Building Utilization, Bureau of
Publications, Columbia University, 1920, page 47



and it must be misleading to the public because of many vacant stations in each room.

The only accurate per cent of utilization must be based on the available pupil stations that are occupied each period.

UTILIZATION OF VARIOUS ROOMS.

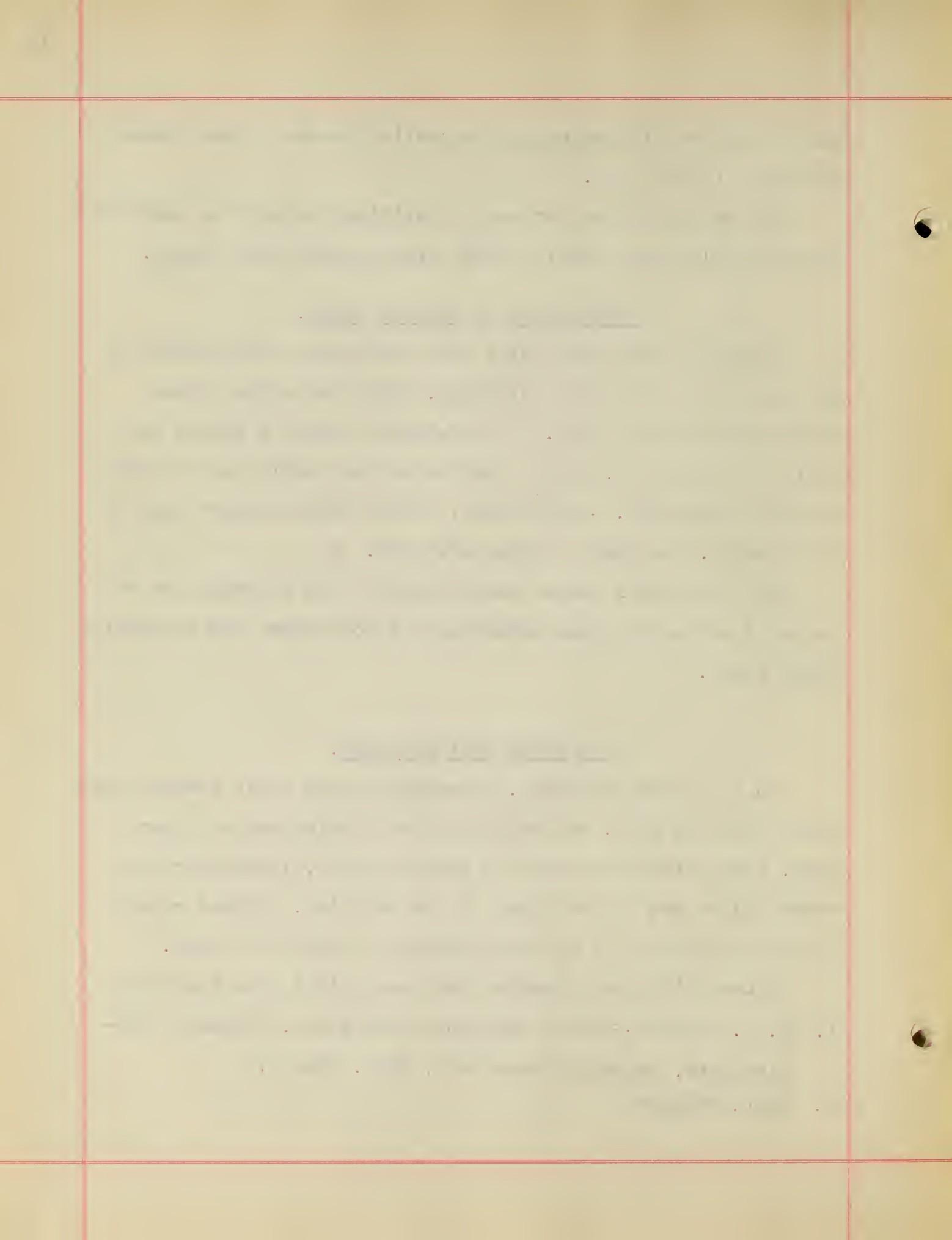
Libraries and study halls have the highest utilization of all rooms in high school buildings, with the regular class rooms having third place. 1 Cafeterias have the lowest per cent of utilization, unless they serve the double use of study hall and cafeteria. Auditoriums, unless they also are used as study halls, rank next to the cafeteria. 2

The study hall can as nearly justify its existence on a basis of use as any room excepting the room where the recitation takes place.

THE STUDY HALL LOCATION.

In the older buildings, especially those built between the years 1908 and 1915, we generally find a main room or study room, large enough to seat the entire school, located on the second floor and at the front of the building, without regard to the direction of light or position of the other rooms.

- Since 1915 more attention has been paid to the study hall
1. E. L. Morphet--School Building Utilization, Bureau of Publications, Columbia University, 1929. Page 47
 2. Ibid, Page 47



as a part of the school, instead of giving primary consideration to its use as an auditorium for the public.

STUDY HALL LOCATION IN RELATION TO OTHER ROOMS.

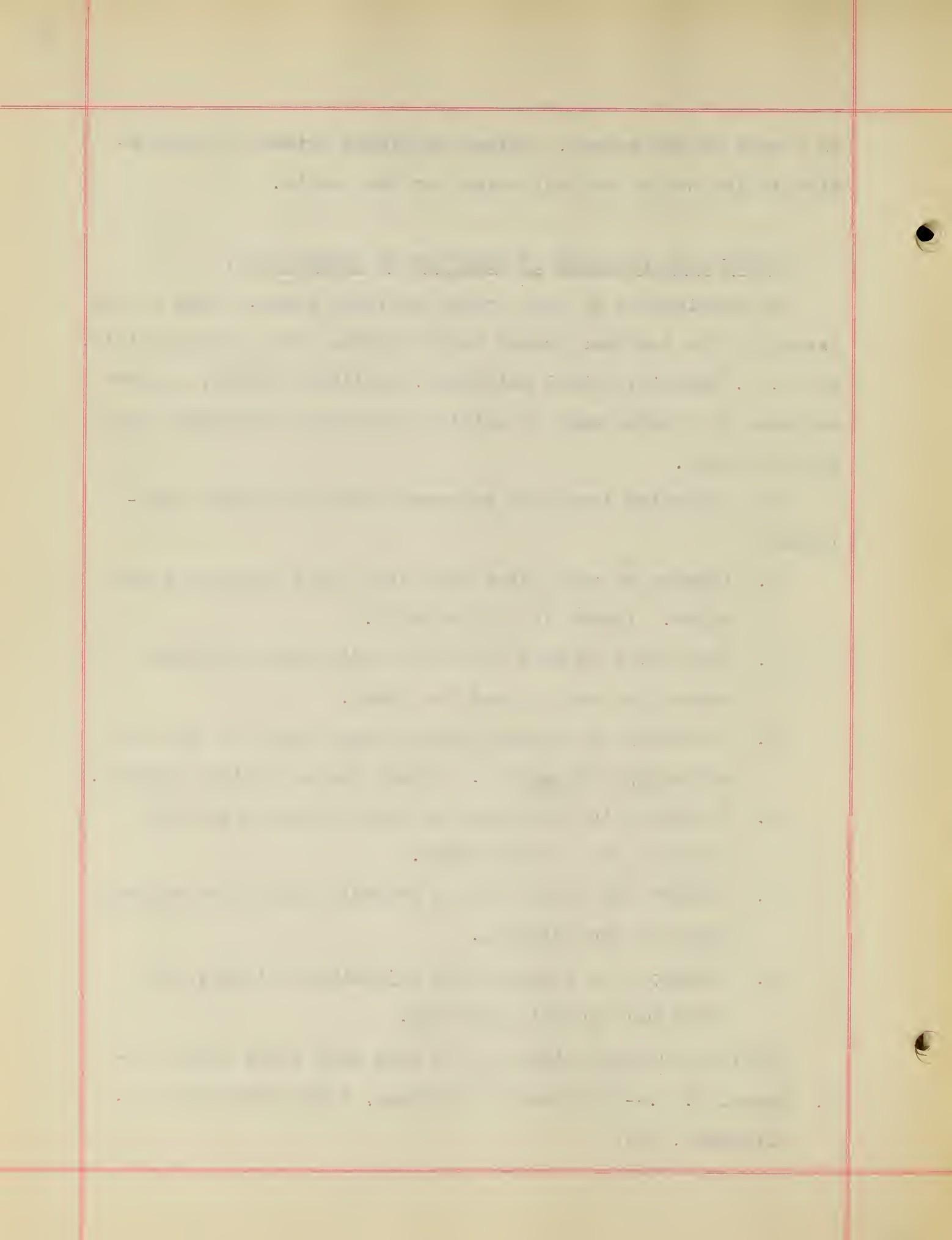
An examination of high school building plans, shown in the issues of the American School Board Journal since the year 1918, and W. C. Bruce's, School Buildings, published (1913), gives evidence of a wide range of opinion and plans concerning study hall location.

The following locations represent the most common practices:

1. Library on each floor with study hall across the corridor. (Found in city schools.)
2. Study hall on main floor with adjoining recitation rooms that can be used for study.
3. A library on the main floor large enough to care for all study hall pupils. (Found in the smaller schools.)
4. A library in the center of the building with study rooms on one or both sides.
5. Library and study hall on separate floors and opposite wings of the building.
6. Library in a separate but adjoining building, with study hall in main building.

Earlier building plans do not show many study halls com-

1. Bruce, W. C.--High School Buildings, Bruce Publishing Co. Milwaukee, 1913



bined with other rooms, as do the practices of more recent building construction.

LOCATION TO AVOID UNNECESSARY PASSING.

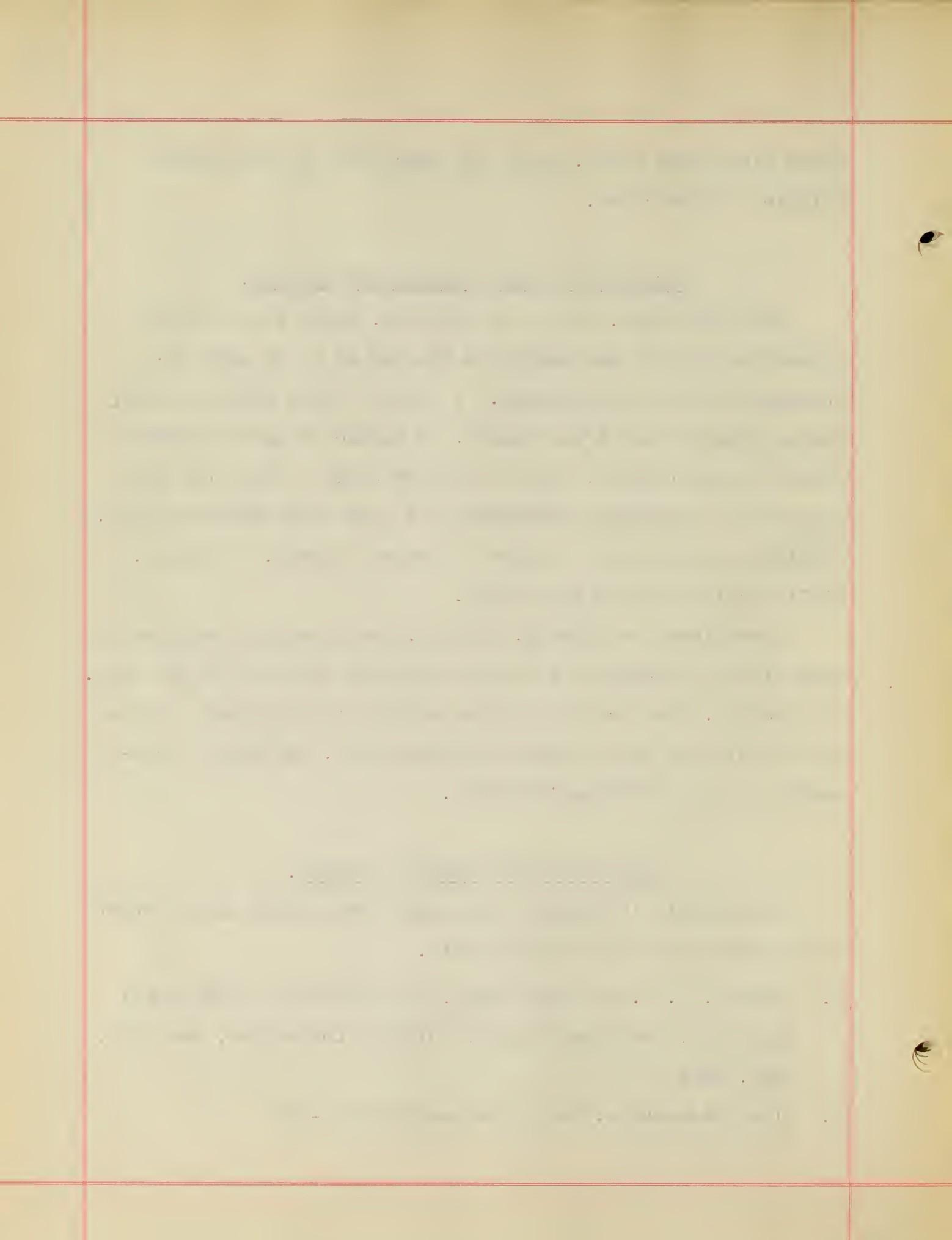
The study hall, if not the library, ought to be a room connecting with it and should be located so as to save unnecessary traffic and passing. 1 With a three story building having class rooms on all floors, it should be on the second floor to save traffic, and the outside shape of the building should be a secondary consideration to the study hall location.2 Lighting and the uses to which the room is given, of course, limit the location in some cases.

Convenience to library, toilets, and drinking fountains is even of more importance than the classroom location to the same. If possible, the location on the corridor should permit the use of the building after school sessions close, and make it convenient to the principal's office.

BLACKBOARDS AND BULLETIN BOARDS.

Study hall black boards are generally located at the front of the room and made of black slate.

1. Strayer, G. D. and Englehardt, Score Card for City School Buildings, Teachers College, Columbia University, New York, 1920, Page 41
2. Class Discussion, Boston University 1932-33

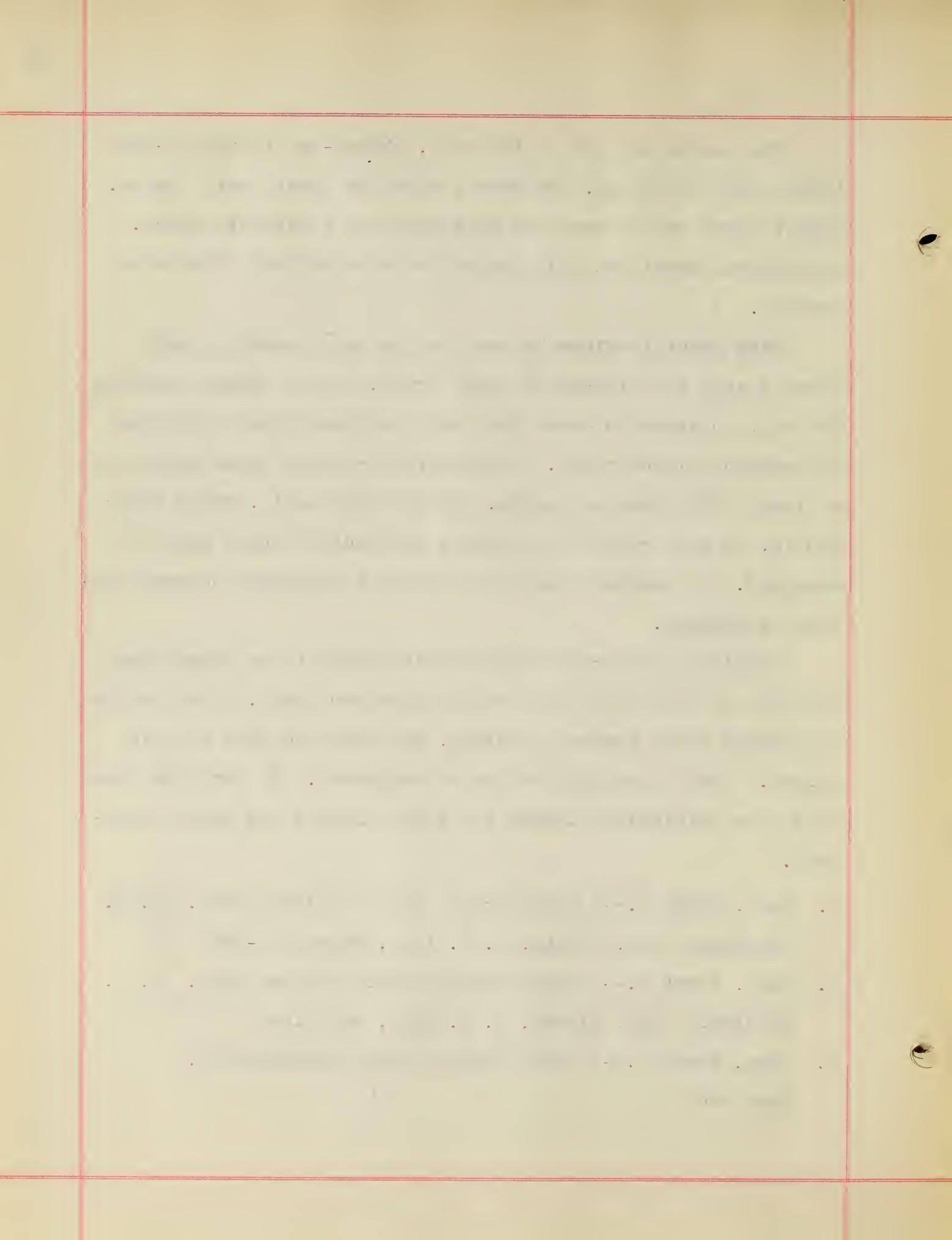


The boards are set on the wall, thirty-two to thirty-six inches from the floor, and have a width of about forty inches. Window space should never be sacrificed to blackboard space. Blackboards should be dull and not such as reflect light rays readily. 1

Many specifications in use for the more recently built schools call for blackboard chalk trays, with a screen covering the top, in order to avoid the chalk sediment being disturbed by anything placed there. Blackboards in class rooms should be at least fifty feet in length, but in study halls, where their use is, in most cases for notices, no special length need be assigned. 2 Teachers regard the short blackboards between windows as useless.

Specifications call for bulletin boards to be placed near the door of the study hall on the right hand wall. The size is to average forty inches in height, and three to four feet in length. Cork is mostly used as a background. 3 Very few rooms that were originally planned for study violate the above standards.

1. Hart, Frank W.--A State School House Building Code. E. F. Williams & Son, Albany, N. Y. 1924, Pages 159-160
2. Hart, Frank W.--A State School House Building Code. E. F. Williams & Son, Albany, N. Y. 1925, Page 150
3. Hart, Frank W.--A State School House Building Code, Page 160



STUDY HALL FURNITURE.

Study hall furniture varies in the same degree as does the furniture of the various rooms used for study hall purposes.

In the photographs shown in the seven types of study halls represented in this discussion, there are the opera seat, the library table, the folding chair, the tablet-arm chair, the stationary, also the desk of various kinds, and benches used as pupil stations.

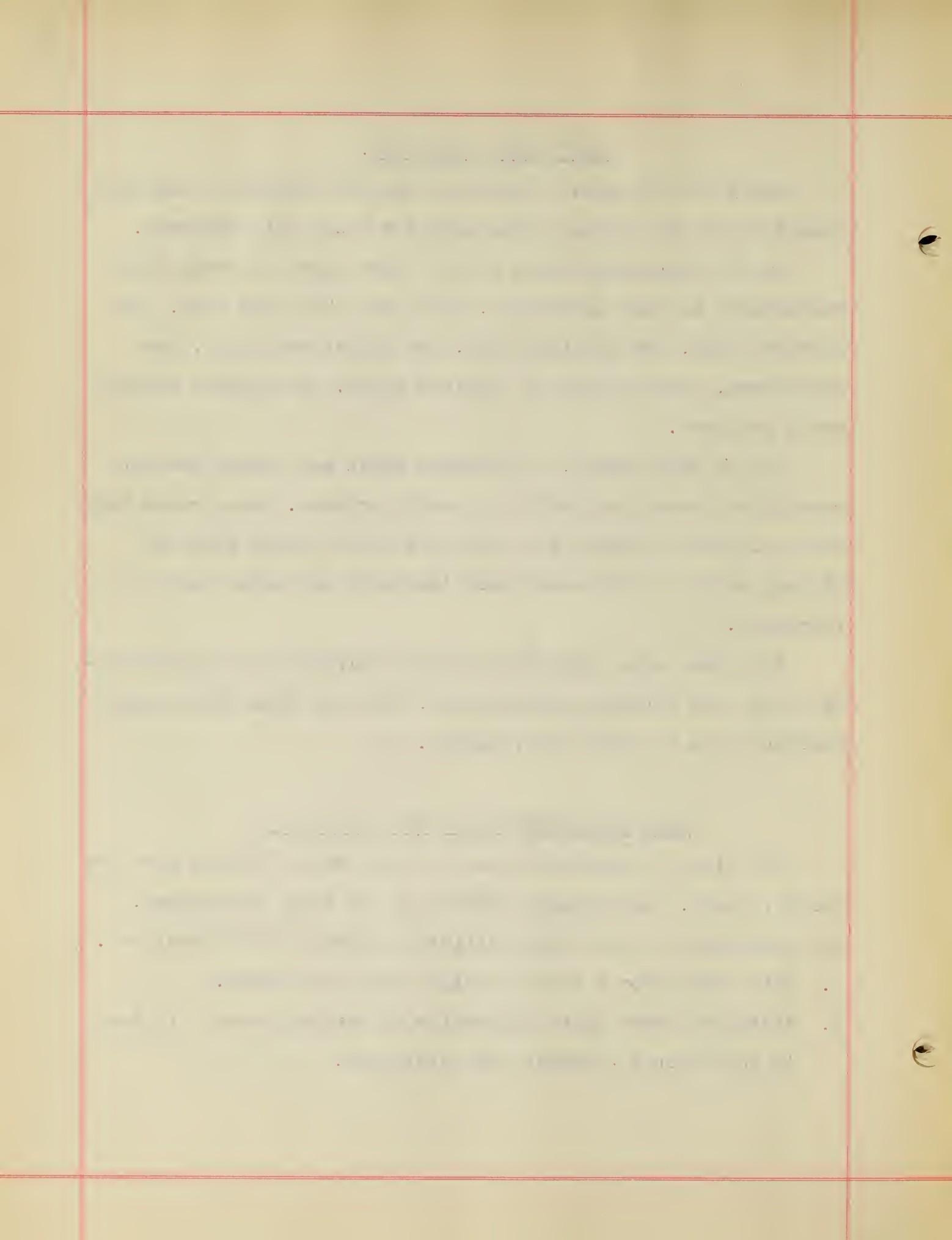
Of the above named, the library table and school desk are recognized as most suitable for study purposes. More rooms that were originally planned for study halls are seated with the library table or stationary desk than with any other kind of furniture. 1

Each year sees new kinds of school furniture put on the market with some patterns entirely new, and some with only slight modifications of some former design. 2

WHAT DETERMINES STUDY HALL FURNITURE.

The kind of furniture found in study halls depends upon two things, first, the original purpose of the room, and second, the persuasion of the school official purchasing the furniture.

1. Data taken from a visit to high school buildings.
2. Statement based upon examination of manufacturers' displays in Educational Journals and Catalogues.



DIFFERENT TYPES OF FURNITURE USED.

The old double desk and seat is rarely found today, it having been replaced by the individual desk. Economy of space at times causes the placing of two single desks close together so that they are served by two instead of three aisles.

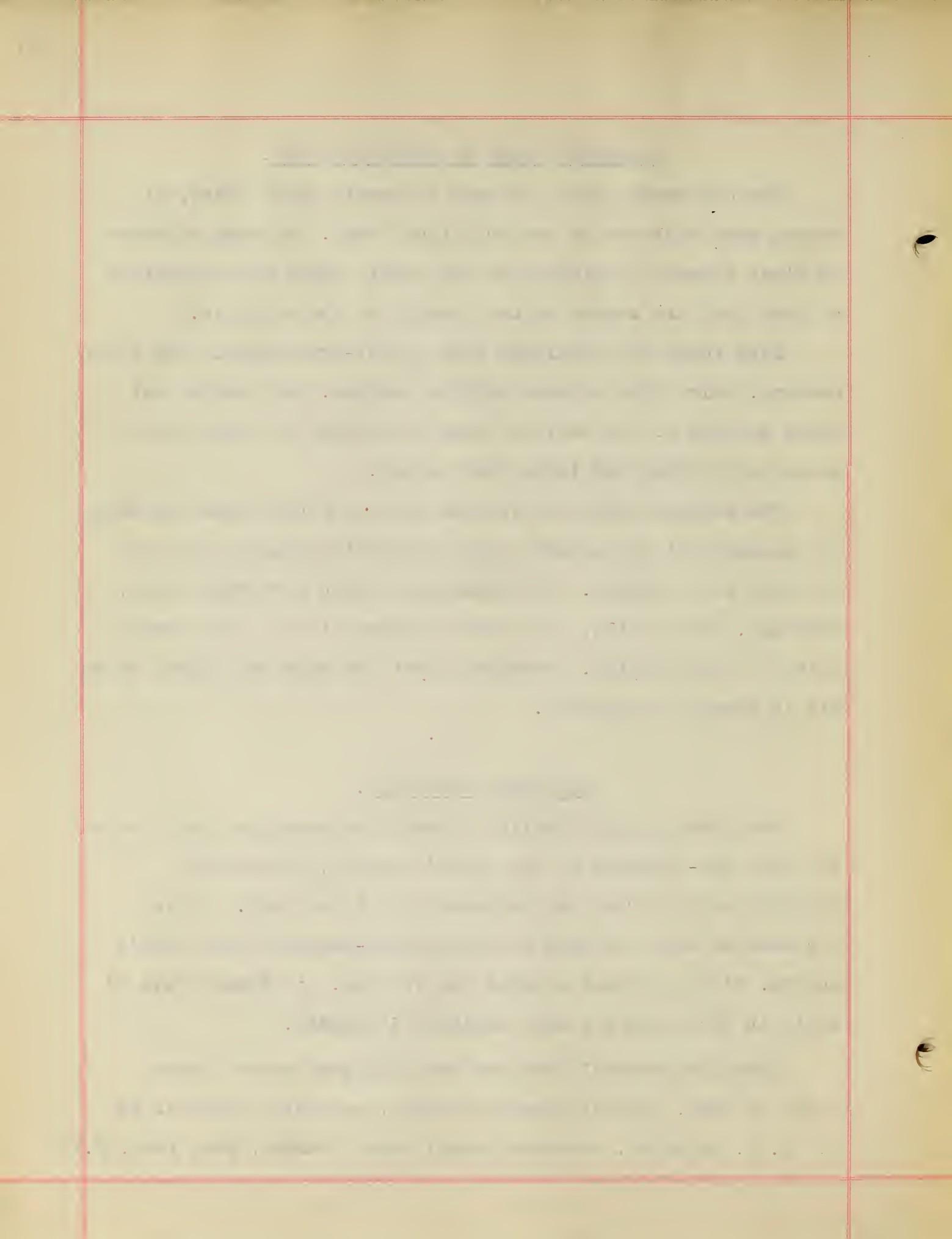
Many rooms are furnished with tablet-arm chairs, (the newer design), which give a large writing surface, but they do not serve as well as the table or desk on account of their lack of space for drawing and laying out papers.

The regular desk that is used most in study rooms has much to recommend it on account of its favorable features for both teachers and students. It furnishes a place for extra books, drawings, and pencils, and saves stopping at the locker before going to study period. Teachers favor the desk many times as an aid in keeping discipline.

ADJUSTABLE FURNITURE.

Furniture to suit pupils as nearly as possible should have the seat two-sevenths of the pupil's height, with a tilt slightly to the front and hollowed to fit the body. It is recommended that the desk be about three-sevenths the child's height, with a 15 degree angle for writing. 1 Three sizes of seats in each room may save making adjustments.

There are several features that all good school desks ought to have, such as rounded corners, separate pedestals in



order not to jar the pupil in front or behind, and a solid back, wide enough to support the body in comfort.

Desks are generally made of maple or oak wood, and should have the best of varnish used for finish.

FURNITURE USED FOR TWO PURPOSES.

Furniture that can be used for two purposes is most economical.

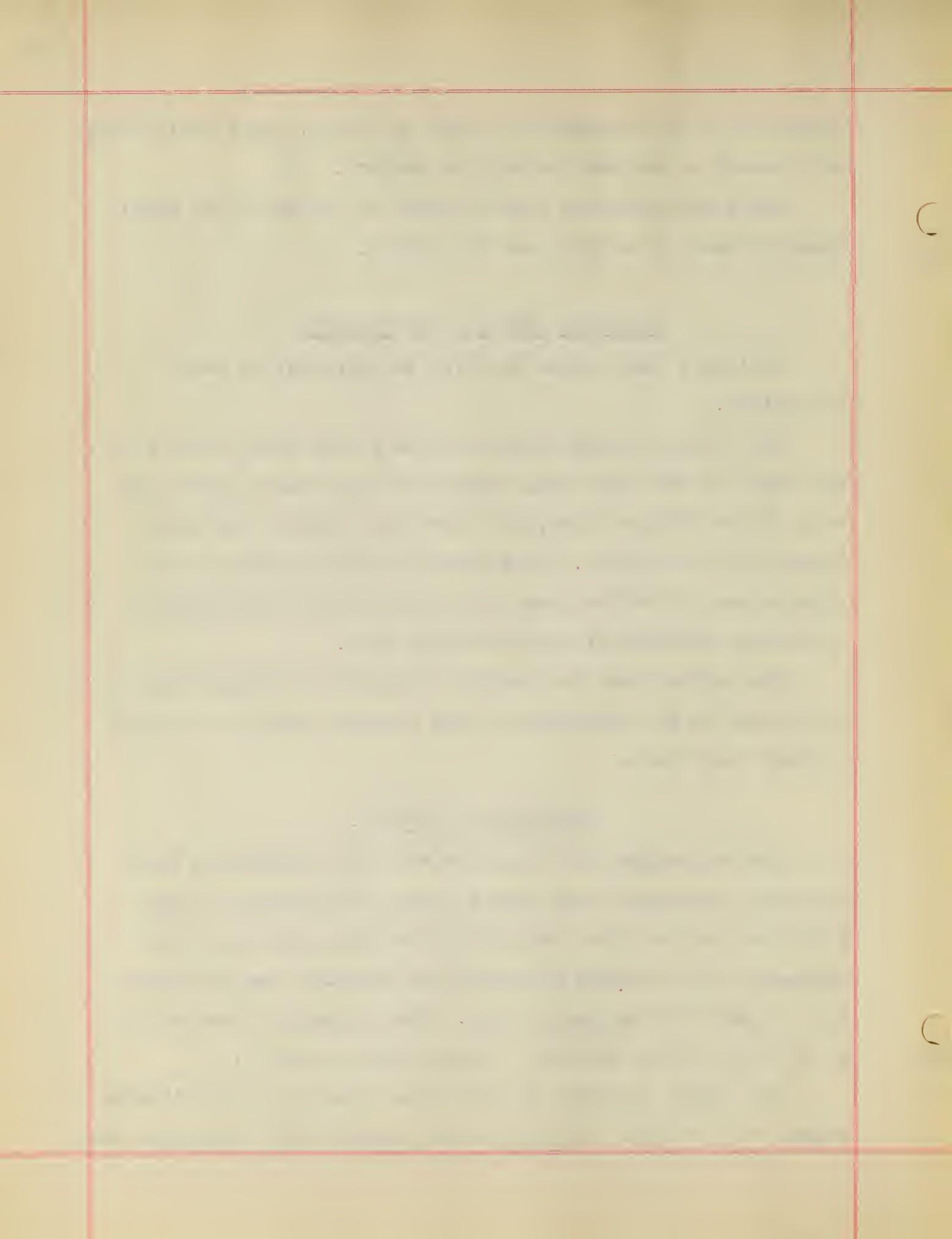
The plan of having science tables in one part of the room, and desks in the other end, requires a room almost double the size of the ordinary room, and leaves one part of the room vacant all of the time. This waste of space occurs in all rooms where all of the furniture in the room is not suitable to the use intended at any particular time.

The best schemes for double utilization of school furniture occur in the combination lunch room and study hall or the library study hall.

AUDITORIUM FURNITURE.

The auditorium that is seated with the combination "desk or chair" furniture comes nearer giving utilization of pupil stations than any other auditorium furniture, but the disadvantages are so evident (as stated on page 23) that this type has not met with any great favor. Many principals condemn the plan after having tried it. Photograph on page 22.

The school furniture shown in the figures on the following pages, has received the accompanying comment from principals and



teachers who have had the experience of using the various types shown.

FURNITURE IN VARIOUS KINDS OF ROOMS FOR STUDY.

The auditorium

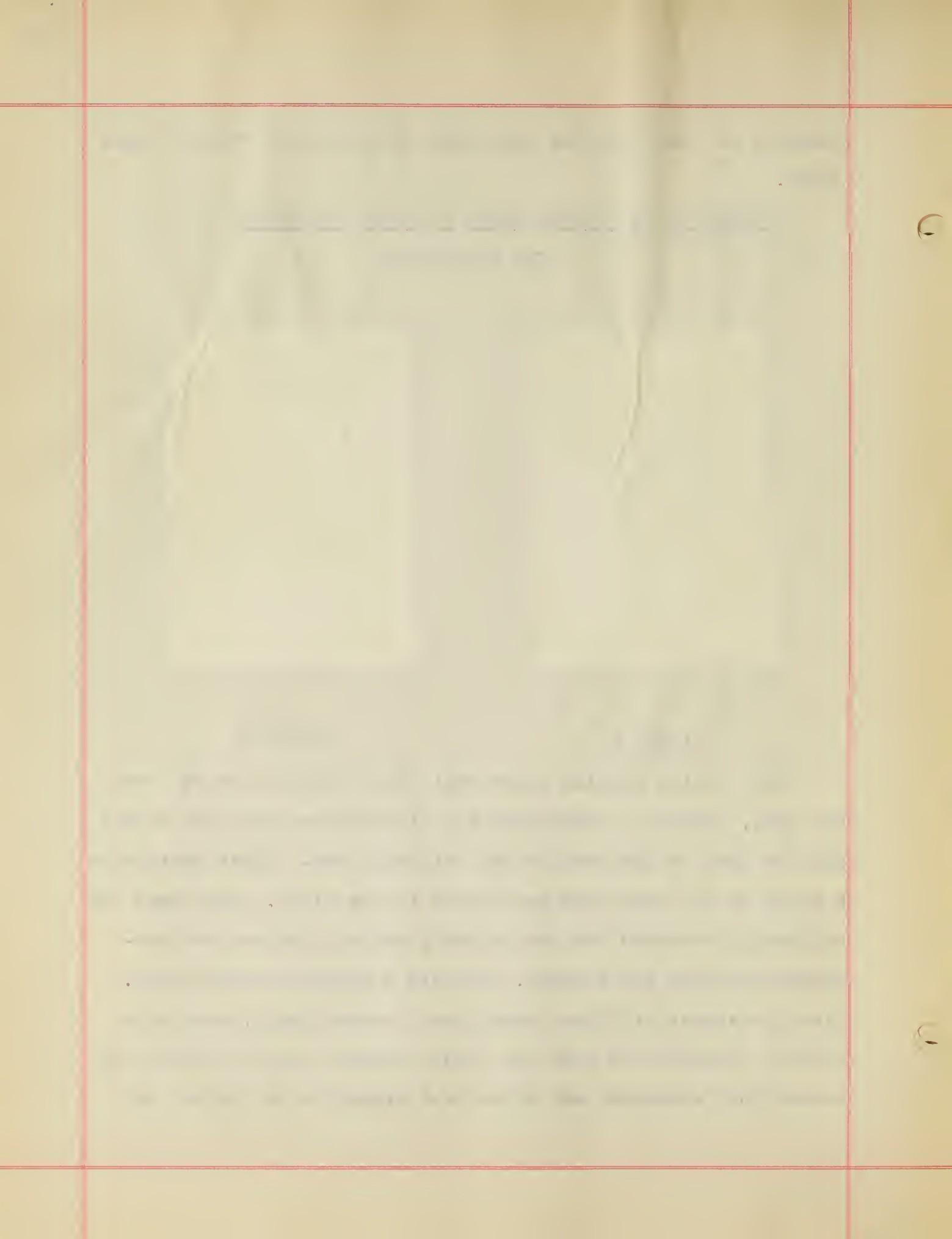


Figure 1



Figure 2

This is the regular opera chair with leather covered seat and back, placed in rows usually 32 inches from the back of the seat to back of the seat in the following row. These seats have a width of 18 inches and are bolted to the floor. They were not originally intended for use as study chairs, and are not provided with desk for writing, nor with a receptacle for books. Also the amount of floor space given to each pupil, when this type of furniture is used for study purposes is in violation of educational standards and state laws regarding the number of



square feet allotted to each pupil in class or study hall. 1

They are used only in emergency and are not recommended for study purposes.



Figure 3

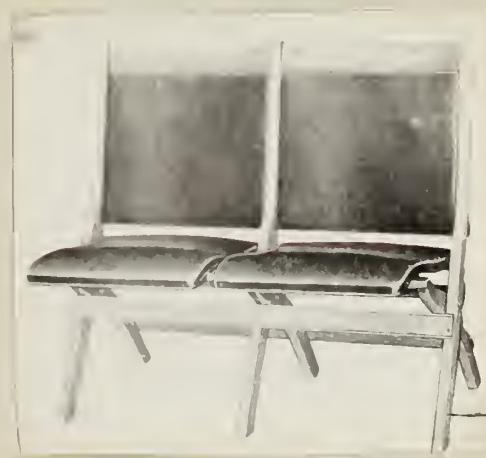


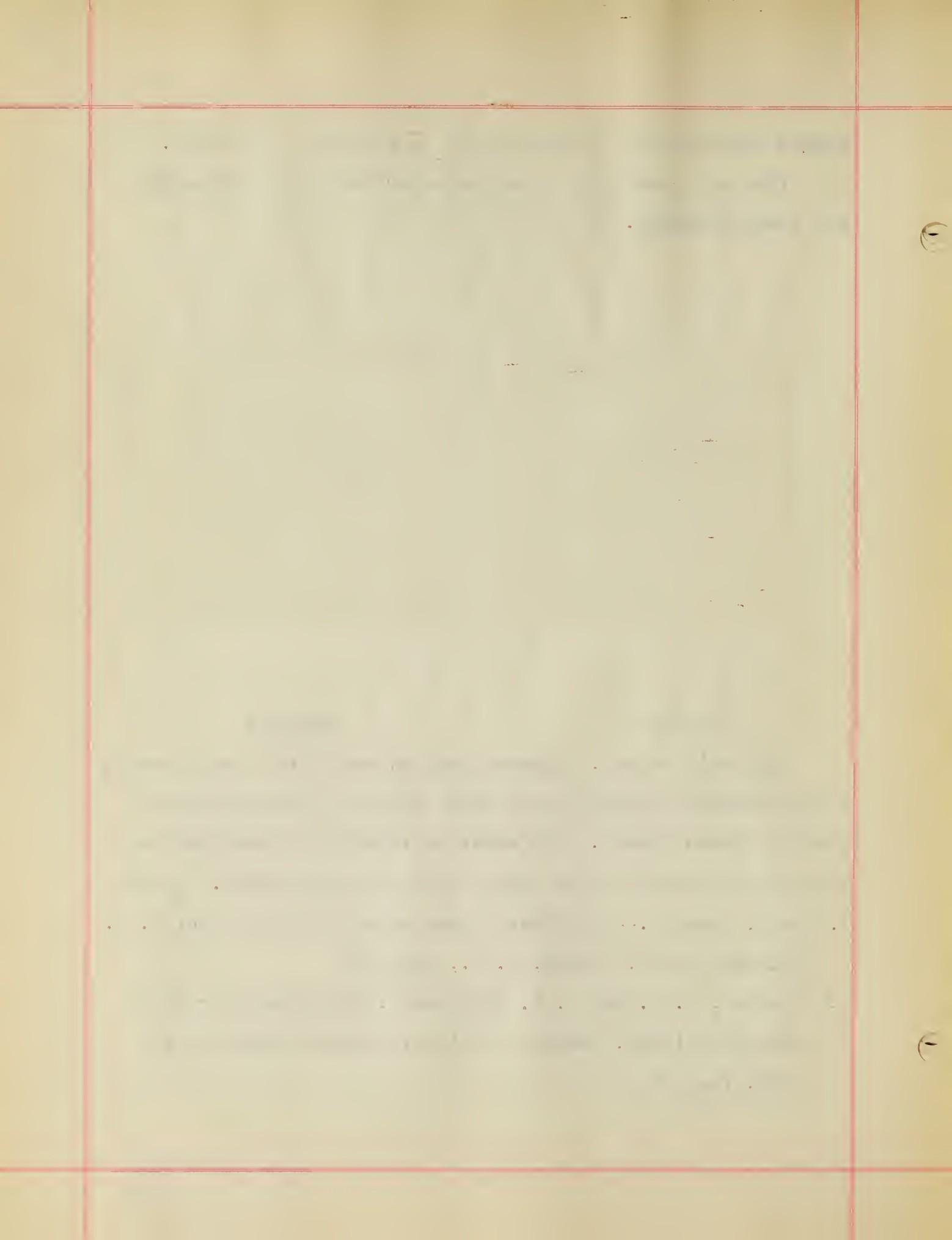
Figure 4

The chairs above, figures 3 and 4, are types used often in auditoriums and assembly halls which serve as gymnasium play rooms or dance floors. The chair is cheaper in construction than the stationary opera chair, but less comfortable. It is

l. Hart, Frank W.--A Standard State School Housing Code, C. F.

Williams & Son, Albany, N. Y., Page 157

Strayer, G. D. and N. L. Englehardt, Score Card for City School Building, Teachers College, Columbia University
1920, Page 35



often made in pairs for the sake of economy, and to save time in moving from the floor. It has even less to recommend it for study purposes than the chair shown in Figure 1.

It is placed in rows and has about the same allotment of space.



Figure 5



Figure 6



Figure 7



Figure 8

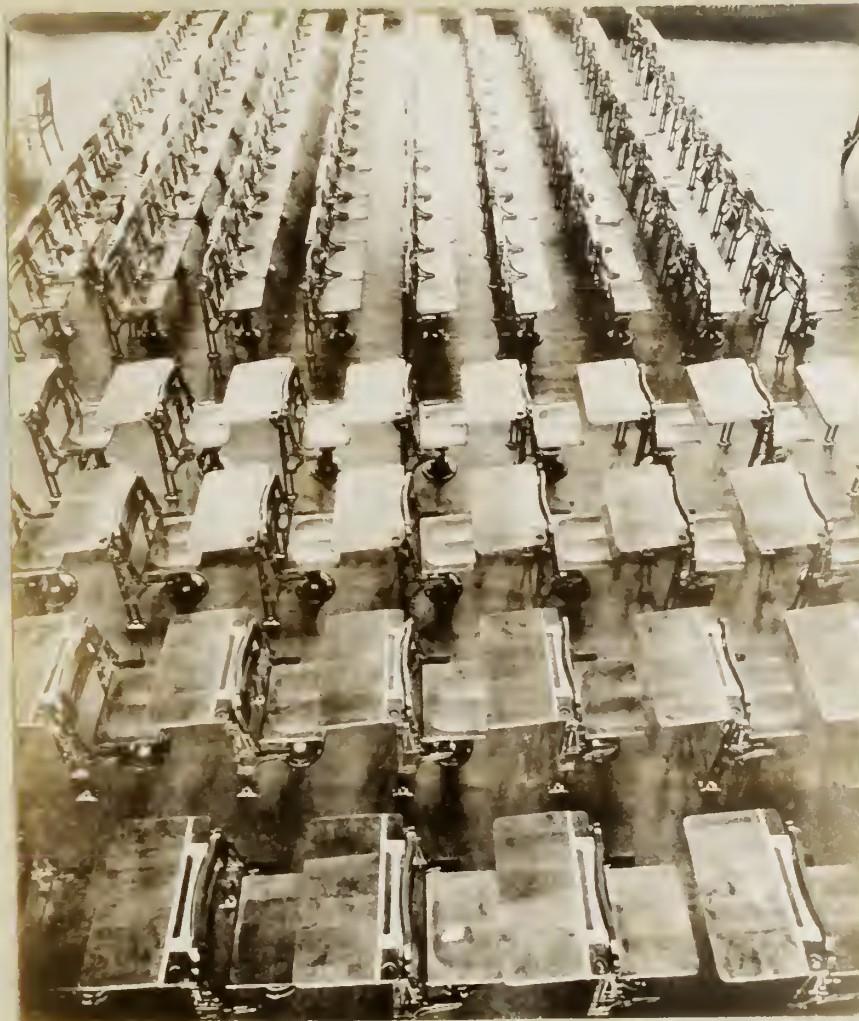
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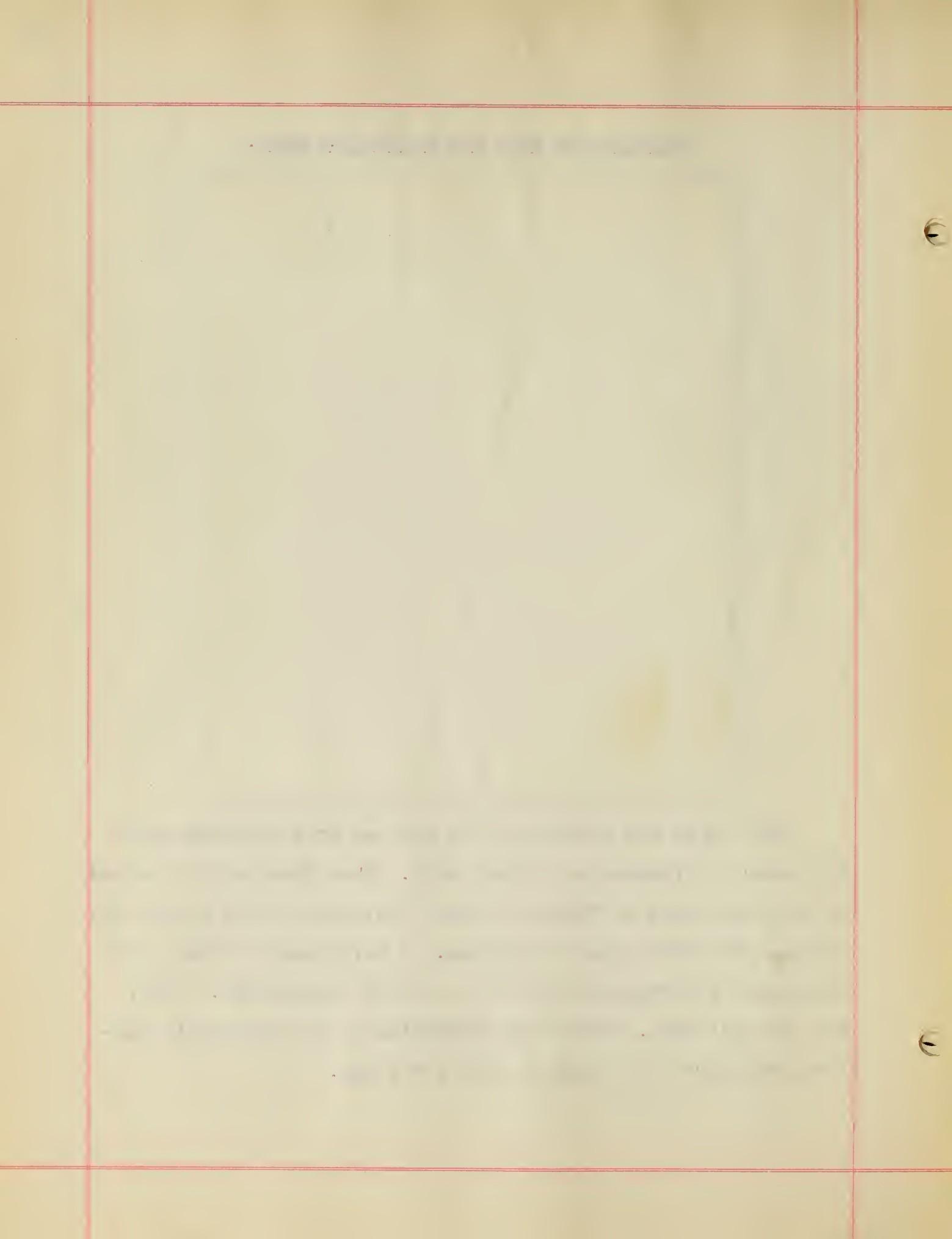
Figures 5, 6, 7, and 8, on the previous page, illustrate a type of furniture designed to enable school authorities to use one room for both auditorium and study hall. It has one advantage over the regular opera chair, in that some provision is made for writing.

The disadvantages are, however, so many that it is deemed poor policy to adopt this furniture in any first selection. The tablet-arm must necessarily be small and has to be lowered if any one passes. In a room with this kind of chair, disturbance cannot be avoided. Study hall teachers unanimously condemn this arrangement.

Combination Desk and Auditorium Seat.



This shows one portion of the room as an auditorium while the other is arranged as a study hall. This furniture is called by the trade name of "Desk or Chair," but has no wide spread use as do the older types of seating. I have found but very few principals recommending the desk or chair arrangement. They, for the most part, prefer the auditorium to be seated with tablet-arm chairs if it must be used for study.



THE REGULAR CLASS ROOM OR STUDY HALL.

Figure 9



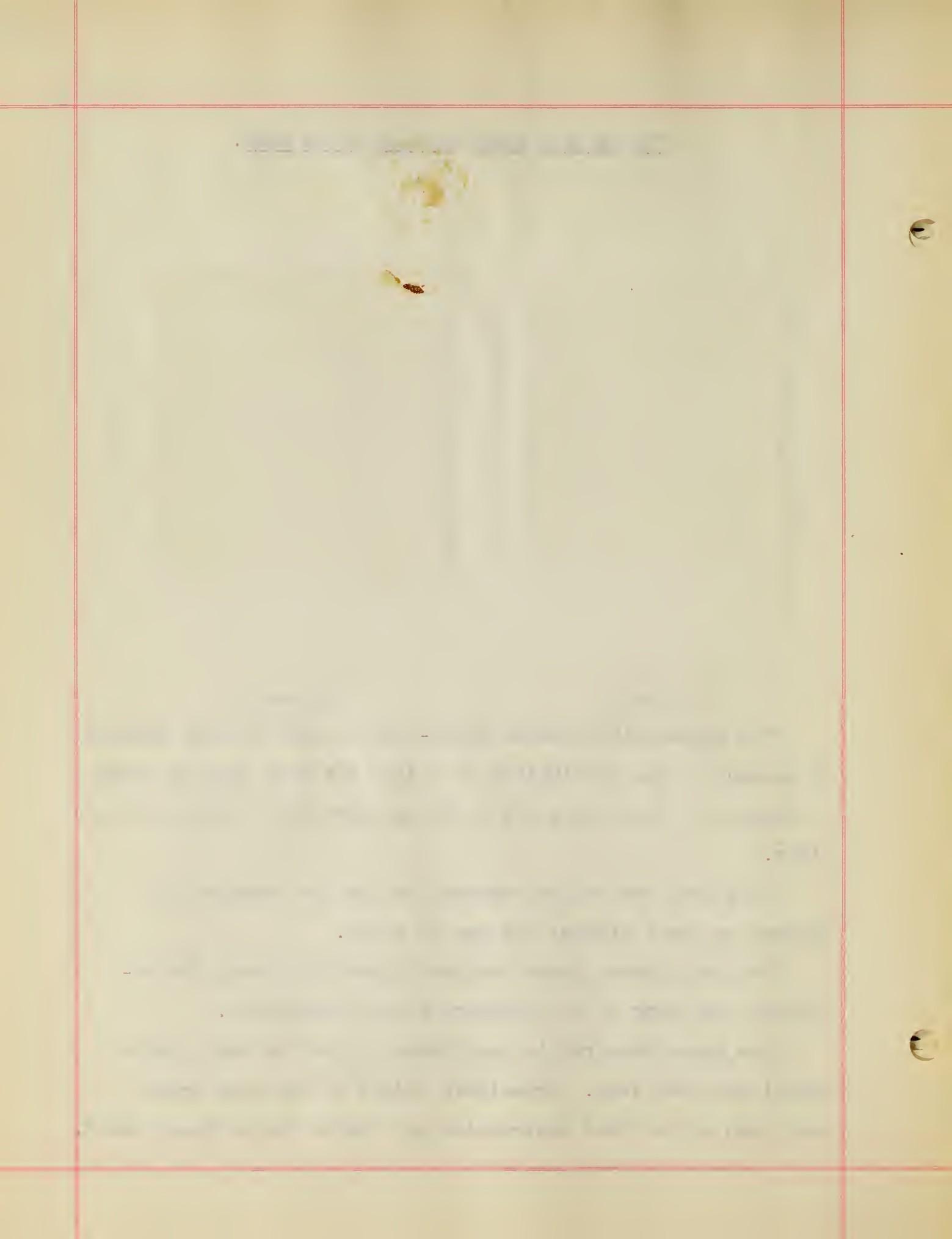
Figure 10

The combination movable chair-desk is used in many schools on account of the possibility of moving the seat from one room to another to make the pupil stations agree with the size of the class.

This desk has two adjustments and can be operated by teacher or pupil without the use of tools.

The book drawer under the seat gives this chair the advantage over many of the ordinary tablet-arm chairs.

The space required is approximately that of any regular school desk and seat. Principals object to the book drawer when open as an aisle obstruction and prefer the enclosed shelf.



The type of back rest in figure (9) is more favorably regarded.

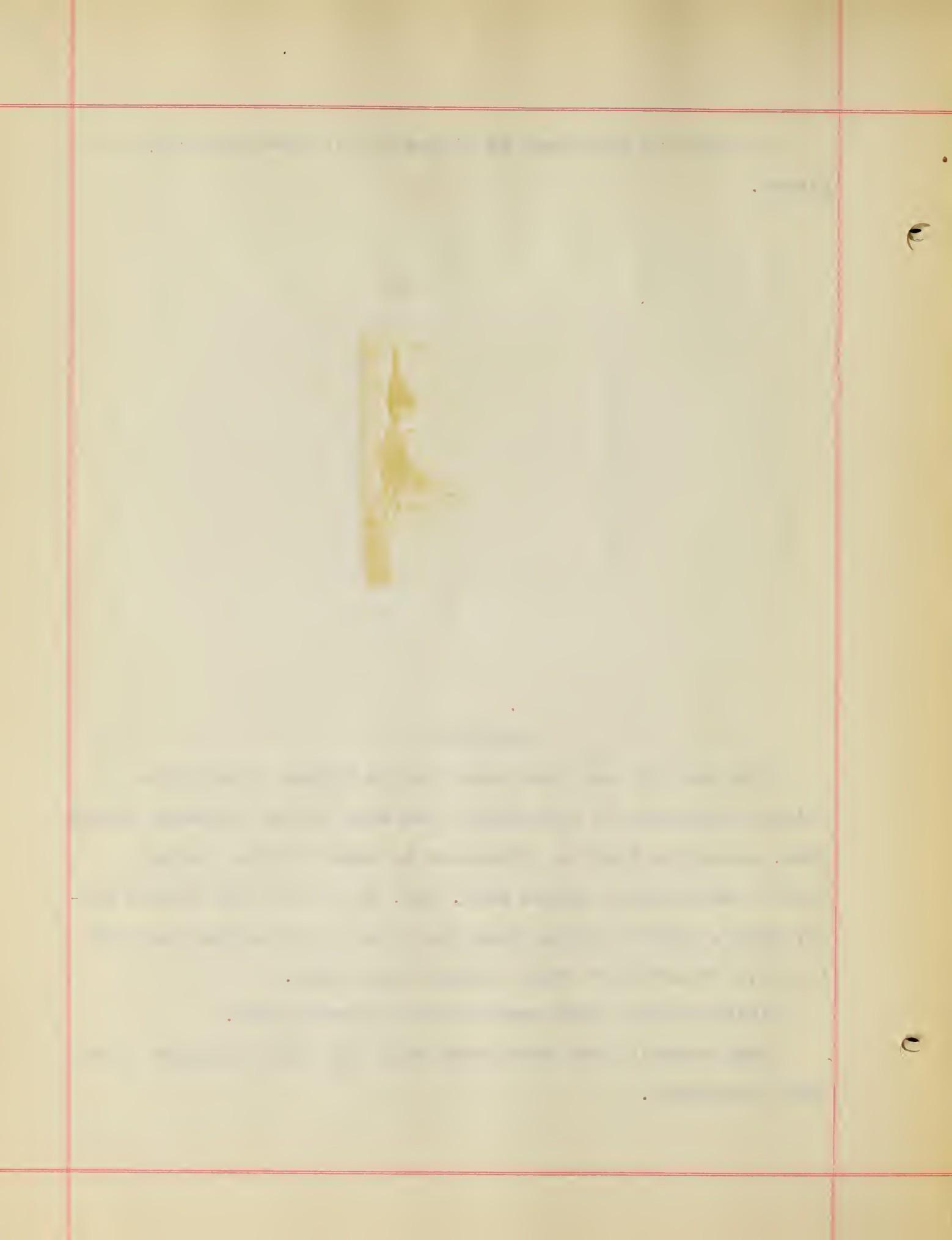


Figure 11

The desk top and book container in Figure 11 with the height adjustment is practically the same as the ordinary school desk, excepting that the framework is made of steel tubing that is made into a single unit, and, as in the case of the tablet chair, permits moving when the floor is refinished or when it is to be used for other purpose than study.

This seat and desk permit one adjustment each.

Many schools have some rooms with the seat in Figure 11 as their equipment.



THE NEWER TYPE OF STATIONARY DESK.



Figure 12



Figure 13

This seat and desk, Figures 12 and 13, are adjustable and give a feeling of permanence and stability on account of being fastened to the floor. The open front affords more ease in cleaning than other types of desks. This type of seat is a popular one, as evidenced by the newer buildings that are using it as equipment. Principals regard it as standard equipment and not experimental.

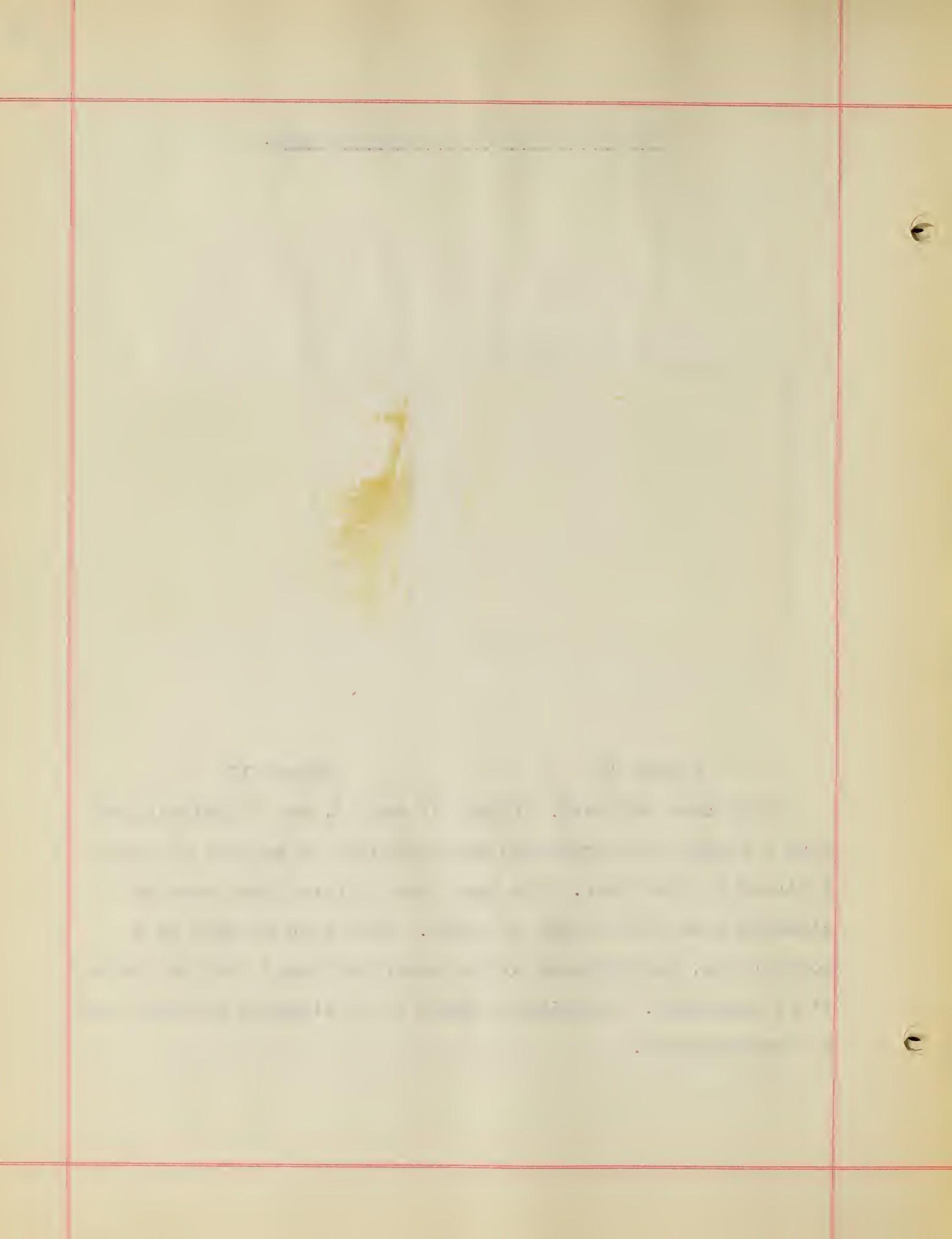




Figure 14

Figure 14 is another type of fixed seating, and shows a sturdy and adjustable seat. It offers all the advantages that are claimed for other fixed furniture, excepting that its construction may cause difficulty in writing when the pupil in front moves. This is avoided with the two unit furniture.

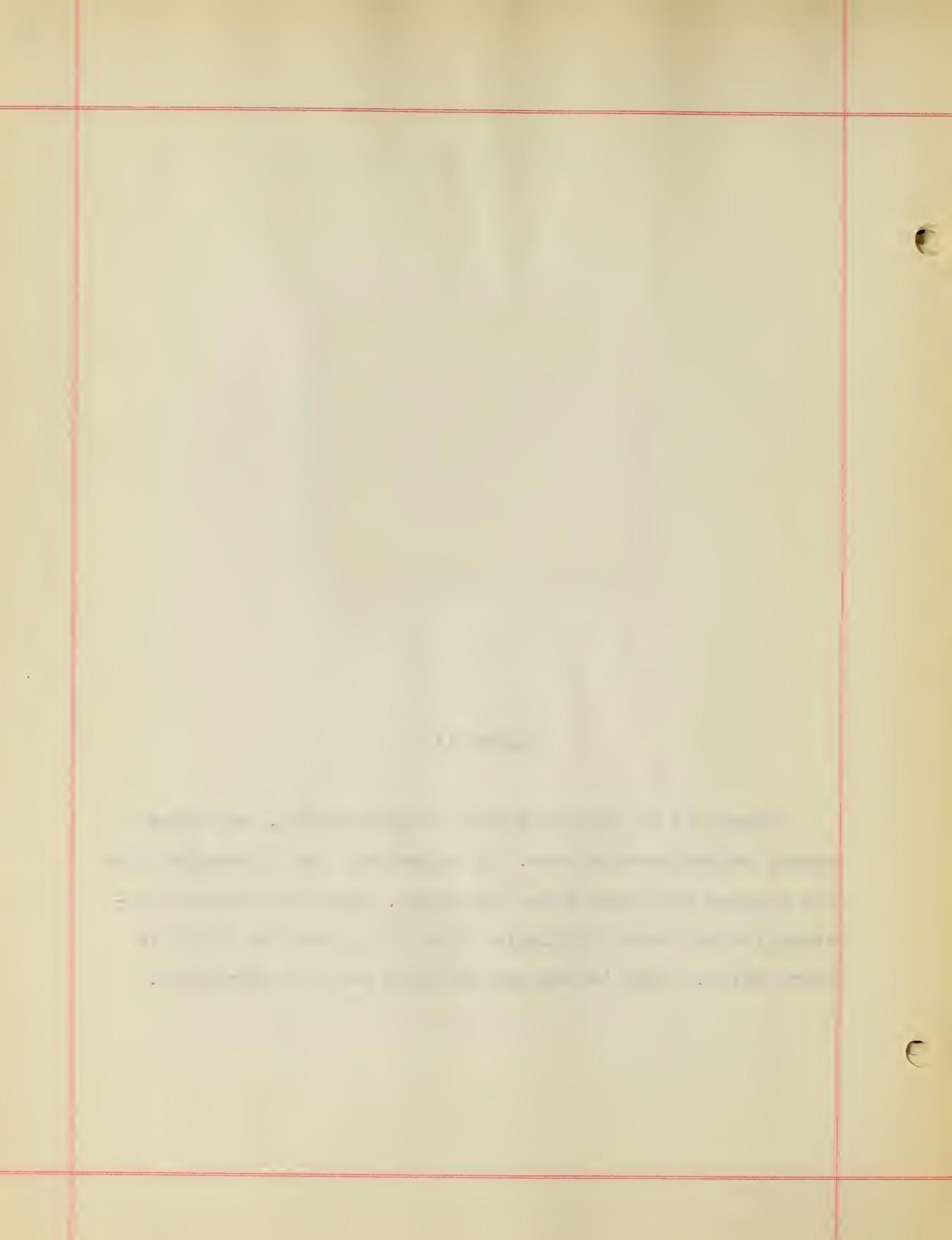




Figure 15

The special feature claimed for the desk in Figure 15 is the ease with which sweeping can be done. Both seat and desk can be adjusted. The upright is square so as to avoid turning from the front position. It is claimed that this desk allows freer movement of the pupil than the desk with more than one foot on the floor.

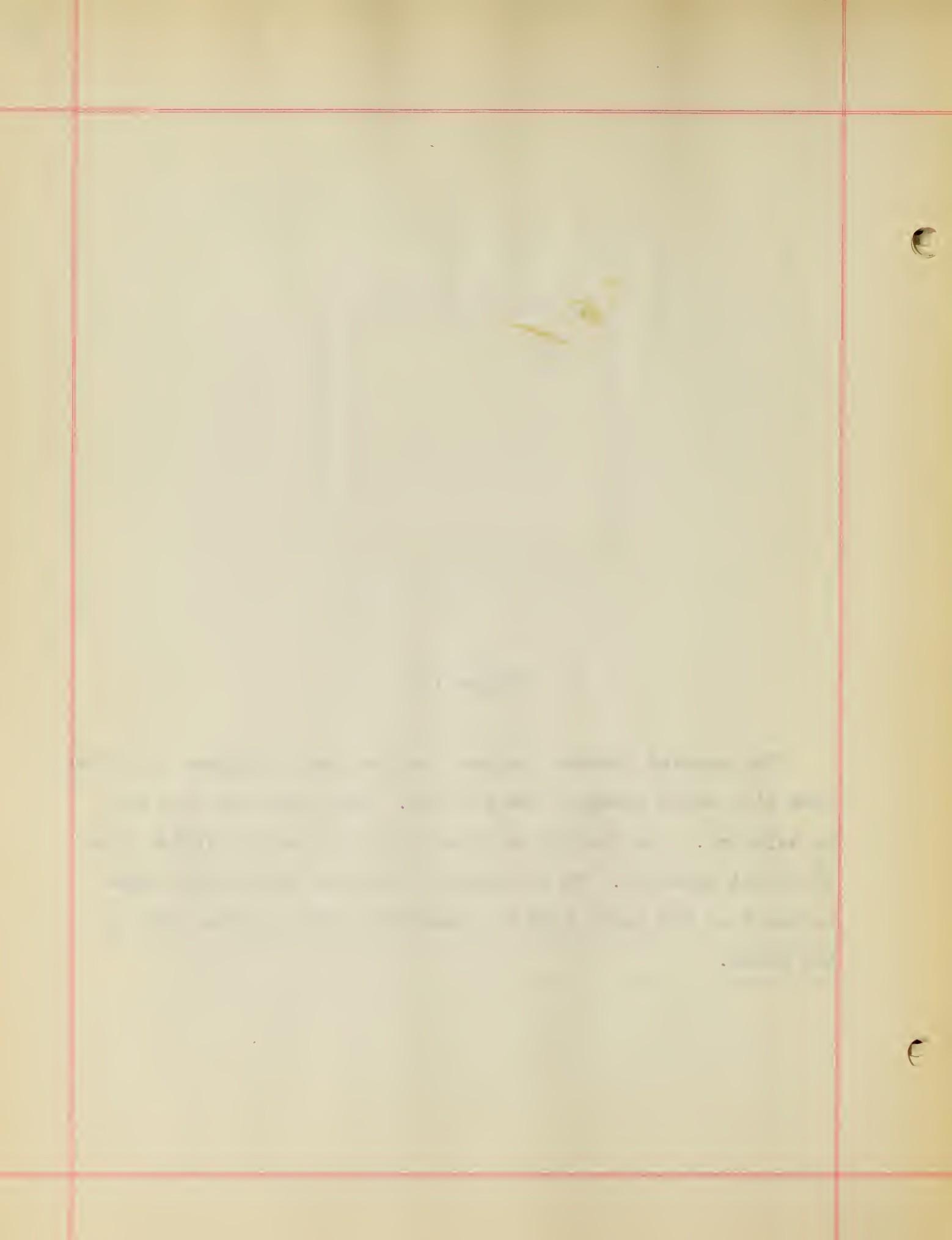




Figure 16

The desk and chair, or table and chair, shown in Figure 16, are not found so often as the other types of desk, but are used most as equipment for drawing rooms. The disadvantages for this plan of seating that are most often mentioned are: it is noisy; it cannot be adjusted; it takes more room than the regular seat; and is more expensive.



Figure 17

The regular arm chair, with a tray for books and papers, is in use in nearly all schools as equipment for some rooms. It is easily installed, and can conveniently be taken to other rooms, where more pupil stations are in need. It is not so comfortable as the regular desk, and principals, in the majority, prefer fixed seats.

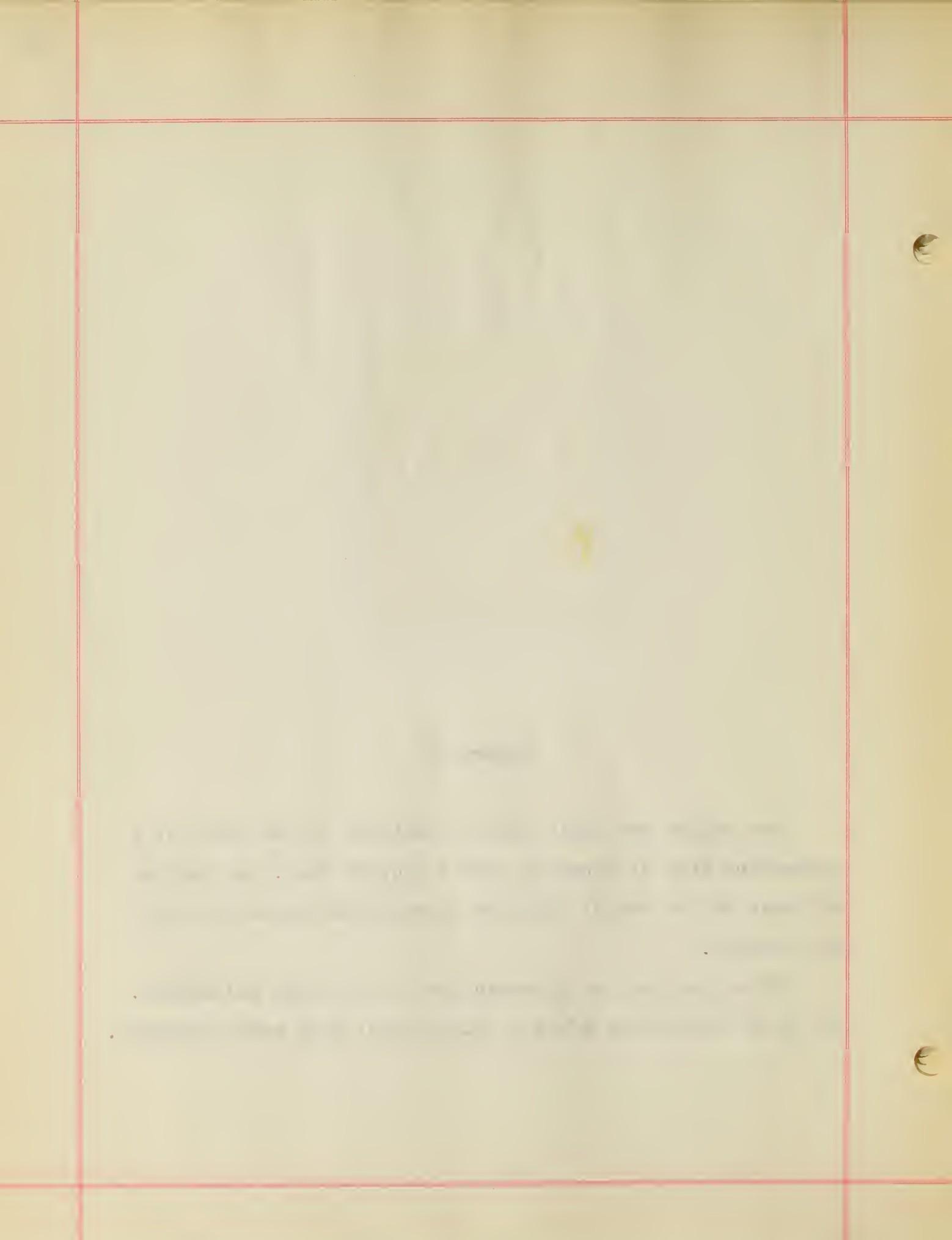
the same time, the author of the book, the editor, and
the publisher, all of whom are mentioned in the
preface, have been omitted. The author's name
is given in the title page, and the editor's name
is given in the preface.



Figure 18

The tablet-arm chair that is fastened to the floor is a convenient kind of furniture for a lecture room, but not as suitable as the school desk for a prolonged period of study and writing.

This type has the disadvantage of not being adjustable. It is not found very often as high school home room equipment.



LIBRARY FURNITURE.

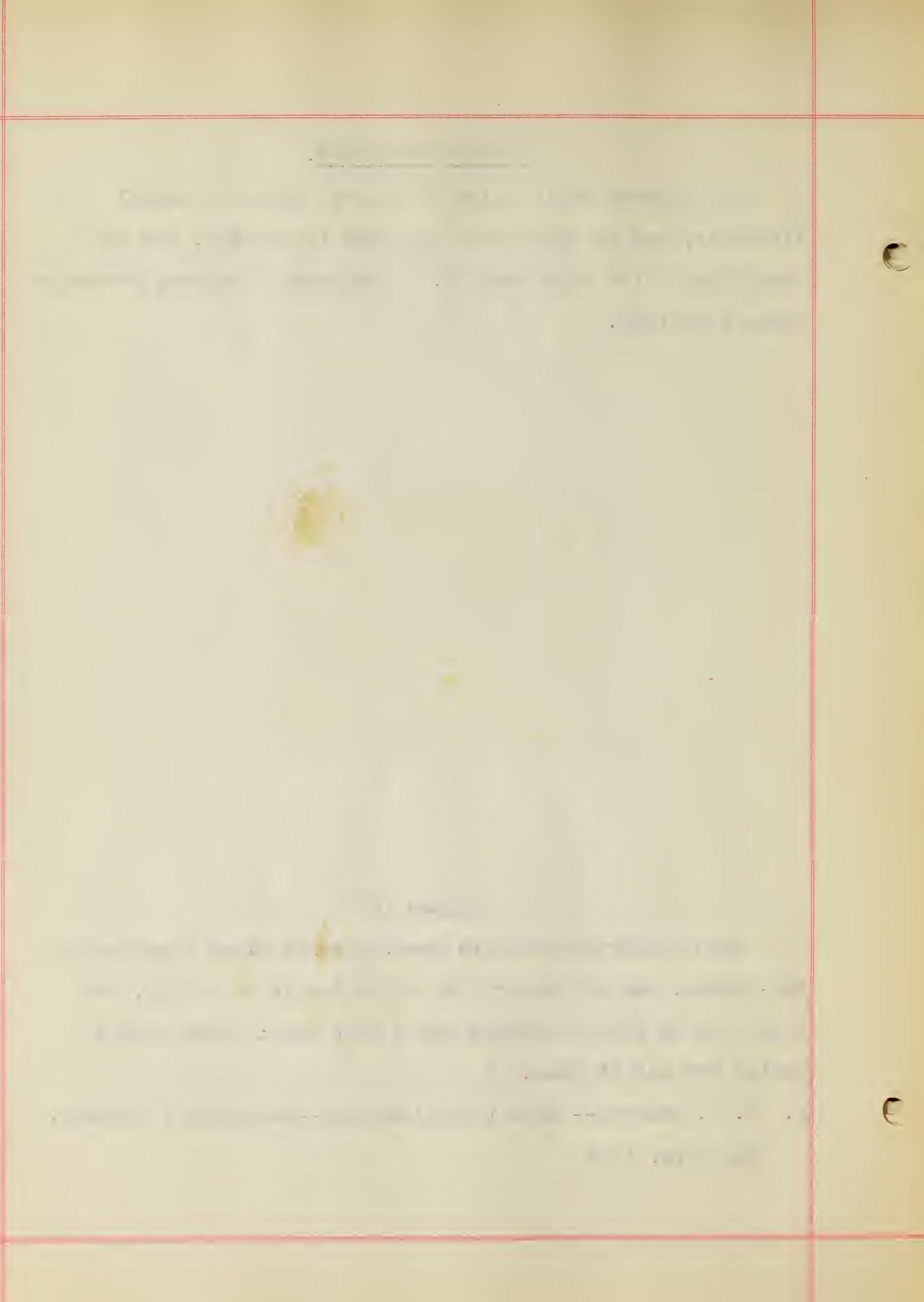
The library table below is a type common to school libraries, and on account of the room it affords, and the stability of its construction, is regarded as a very favorable place for study.



Figure 19

When library tables are used, experts place them end to the window, and set their size at 30 inches in height, and from 5 to $5\frac{1}{2}$ feet in length and 3 feet wide; four to six pupils may sit at them. 1

1. J. J. Donovan-- School Architecture--Macmillan & Company,
New York, 1921



THE SIZE OF STUDY HALLS AND NUMBER OF SEATS NEEDED.

The old idea generally held by the public, that if the number of pupil stations in the entire building were equal to the number of pupils enrolled in the high school the building was large enough, is fast passing with the increasing number of elective subjects offered.

LAWS CONCERNING STUDY HALLS AND CLASS ROOMS.

The laws in very few states make any definite statement concerning study halls, but the mandates placed on the statute books are such that study halls must conform to some of the classroom specifications. 1

The most recent laws in the following states: Nebraska, New York, North Dakota, Pennsylvania, and Michigan, set the average classroom at from 21 to 24 ft. wide by from 24 to 32 ft. long by 12 ft. in height with no more than forty pupils.

The floor space varies, as expressed by the various state laws, from 15 sq. ft. to 18 sq. ft. per pupil and the cubical content varies as stated, from 175 cu. ft. to 225 cu. ft. per pupil. 2

The above laws do not directly affect study halls in all the cases, but when they are of the smaller type, they

1. State School Law--Minnesota, 1927, Indiana, 1928, Nebraska, 1927.
2. School Laws--Delaware, 1927, Michigan, 1923, Virginia, 1928, Utah, 1927.

1. *Chlorophytum comosum* L. (Liliaceae)
2. *Clitoria ternatea* L. (Fabaceae)
3. *Croton ssp.* (Euphorbiaceae)
4. *Dioscorea alata* L. (Dioscoreaceae)
5. *Elettaria cardamomum* L. (Zingiberaceae)
6. *Ficus religiosa* L. (Moraceae)
7. *Garcinia atroviridis* Gaertn. (Clusiaceae)
8. *Hedychium coronarium* L. (Zingiberaceae)
9. *Ipomoea carnea* (L.) Sweet (Convolvulaceae)
10. *Jasminum sambac* (L.) Sweet (Oleaceae)
11. *Lantana camara* L. (Verbenaceae)
12. *Musa acuminata* Colla (Musaceae)
13. *Neurolepis paniculata* (L.) Merr. (Asteraceae)
14. *Ormosia* sp. (Mimosaceae)
15. *Pandanus tectorius* L. (Pandanaceae)
16. *Passiflora quadrangularis* L. (Passifloraceae)
17. *Phragmites australis* C. Presl (Poaceae)
18. *Psychotria* sp. (Rubiaceae)
19. *Rubus corchorifolia* L. (Rosaceae)
20. *Sapindus mukorossi* L. (Sapindaceae)
21. *Sesbania grandiflora* L. (Fabaceae)
22. *Syzygium cumini* (L.) Skeels (Myrtaceae)
23. *Tiliacora triandra* (L.) Merr. (Menispermaceae)
24. *Trichilia elegans* (L.) Merr. (Meliaceae)
25. *Uncaria* sp. (Rubiaceae)

naturally fall under class room specifications. Also these laws apply when class rooms are used for study halls.

With existing conditions, it is possible to use a high school building 90% to 95% by rooms exclusive of the auditorium, but the use by pupil stations does not exceed 85%. 1

A FORMULA FOR DETERMINING STUDY HALL SIZE.

Donovan gives the following formula for determining the size of any study room:

$$A \text{ equals } P \times FW$$

A equals Avg. number of study sittings.

P equals Pupils to be accomodated in school.

F equals Avg. number of free periods of each pupil per week

W equals Periods in the schedule per week.

He also states that his observation leads him to believe that the ideal study hall is one that provides for approximately seventy-two pupils, seated with desks arranged in six rows with twelve desks to a row. 2

OLDER STANDARDS

Other standards recommend that all buildings should provide the necessary study hall for not less than sixty or more than two hundred pupils. In the larger schools, either of the above recommendations would necessarily call for more than

1. From discussion in Problems of a School Superintendent Boston University 1932 (November)
2. Donovan, J. J.--School Architecture, MacMillan 1921

the first time I have seen a bird of this species. It was a small
brown bird with a long tail and a crest on its head. It had a
long beak and was very active. It was perched on a branch of a
tree and was looking around. I took a few pictures of it and
then it flew away. I am not sure what kind of bird it was, but
it was definitely a small brown bird with a long tail and a crest.
I will try to find out more about it.

one study hall.

When study pupils are cared for in more than one room, the practice of using study halls the size of class rooms is quite common.

NEWER PLANS FOR STUDY HALL SIZE.

The above theories calling for the small study hall are being regarded as obsolete today by many of those in charge of school planning, as recently erected buildings and also building plans, are making room for several hundred pupils in one room. 1 Large reading rooms and public libraries give evidence of the efficiency of the larger study halls with their quiet and satisfactory accommodation of several hundred people at one time.

The minimum size given for study rooms is 16% to 30% of the school membership. 2

Experience has taught all teachers that the organization of study hall habits has as much to do with the efficiency of the study as do its size, location, and equipment.

STUDY HALL LIGHTING.

Good light is necessary to the health, comfort, and efficient work of pupils in a study room.

1. Providence Rhode Island High Schools
2. Hart, Frank W.--A State School House Building Code,
C. W. Williams & Son, Albany, N. Y. 1924, Page 157

Pupils near the windows naturally have more light than those near the opposite wall, but it has been agreed upon by authorities, that the best arrangement for windows is that which gives a glass surface of one fifth of the floor space. 1

It is safe to say that the eyes of children are given more work today than at any former period in the history of education, and problems of lighting of necessity must differ in different parts of the country due to the type of school and amount of sunshine. Also building locations and the surroundings determine in some cases the amount of light.

THE POSITION OF WINDOWS.

The direction that windows face determines the amount of sunshine any room may receive. When they face the east about one hour's sunshine will interfere and cause the use of shades in the morning, but after 10:30 the shades may be raised to the top without the interference of the sun for the remainder of the day. When windows face the south the first few rows of seats must be protected from the sun, but in this event those seats farthest away from the window are too dark, also the sun never reaches beyond about the middle of the room at any time.

There is really less bother from the sun in study halls facing the west than in any other direction, as the sun generally comes into a west window at about one o'clock, very

J. Harrison, W. K.--The Schools of Today and Tomorrow

Architectural Book Publishing Co. N. Y. 1931, Page 12

little trouble is experienced, when school closes at 2:30 o'clock. Opinion gives the east or west as the best directions for facing school room windows. 1

WINDOW SHADES.

Many kinds of window shades are advocated and used, but most common in use are those that consist of two shades fastened at the middle point of the window frame with one rolling up and the other down. This type of shade permits of covering either part of the window without interfering with the rest of the window, and does not cause the mechanical difficulty of some folding shades.

White curtains are sometimes used to cover blackboards that absorb too much light.

No curtain or ground glass, however perfected, will give perfect light at all times.

WINDOW CONSTRUCTION.

Windows should be placed as closely together as possible for safety and as far to the rear of the rooms as possible. The bottom of the window may be four feet from the floor and extend to the ceiling. Windows should be at least six feet from the front wall of the room. Light should come from the left except in cases where the room is more than twice its height.

1. Strayer, G. D. and Englehardt, Score Card for City Schools, Columbia University, New York--Page 12

and many to do. — I have not time to go into all the details of the
various species, but will say a few words about the most interesting
ones. — The first is the *Thomomys*, which is a very large
mouse-like rodent, with a long tail, and a very long, thick, and
powerful forelimbs, with long claws, which it uses in digging
holes in the ground. — It is found in great numbers in the
deserts of California, and is very abundant in the
Mojave Desert. — It is a very active animal, and is
always on the move, either digging or running about.
It is a very strong animal, and can run very fast,
and is very difficult to catch. — It is a very
curious animal, and is very interesting to study.
It is a very interesting animal, and is very
curious to study.

In this case some windows are placed at the rear of the room. 1

ARTIFICIAL LIGHT.

School standards suggest two types of artificial light: direct and semi-direct. Semi-direct lights are in most common use, and while they cast shadows on account of the light fixture arrangement, they are quite efficient, are more economical, and are easier to care for than the direct type.

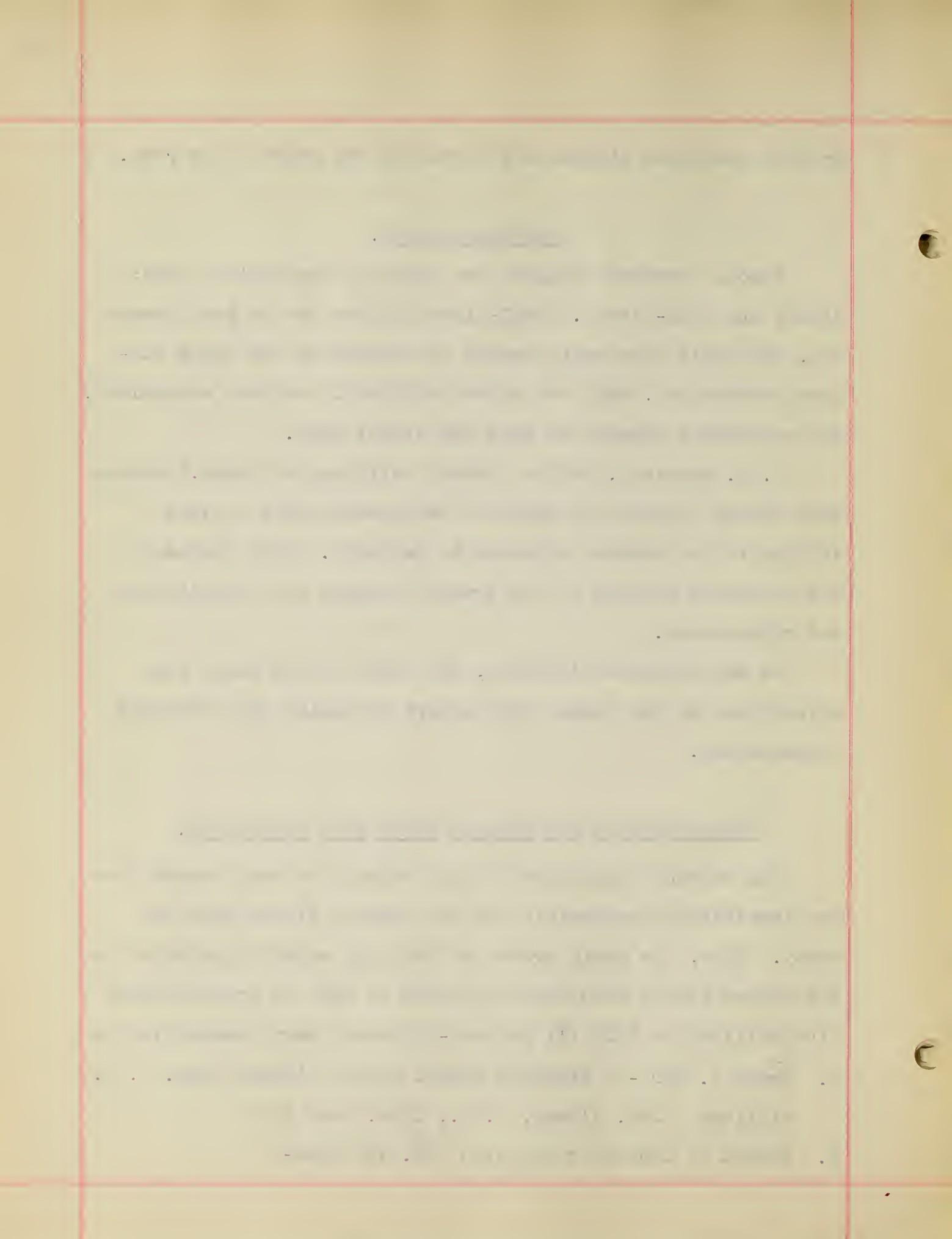
W. K. Harrison, in his "School Buildings of Today," states that direct lighting by means of reflectors above a glass ceiling is the nearest approach to daylight. This system is not in use on account of the greater expense for installation and maintenance.

In any system of lighting, the color of the walls and cleanliness of the shades are factors in making for efficient illumination.

RESPONSIBILITY FOR VARYING STUDY HALL CONDITIONS.

The crowded conditions of high schools at the present time are immediately responsible for the various places used for study. Also, the rapid growth of the high school population in the United States from eight thousand in 1870 to approximately five millions in 1930 (2) has out-distanced many communities in

1. Frank L. Hart--A Standard School House Building Code. C. F. Williams & Son, Albany, N. Y., 1924, Page 157
2. Bureau of Education Bulletin (No. 13) 1924-5



methods of procedure and ability to finance proper conditions.

SCHOOLS WHERE VARYING CONDITIONS ARE FOUND.

Very few schools, excepting those of most recent construction, are able to accommodate their study pupils with their original plans, and the smaller schools especially have reverted to any plan offering immediate relief. The smaller high schools, more remote from the populous centers, are most apt to have conditions that do not conform to standards. Even when conditions are such that communities are able financially to construct the proper kind of building, the planning is often left to people not experienced (1) in this kind of work, and the result is an unsatisfactory building plan.

THE PRINCIPAL'S EXPERIENCE VALUABLE.

It is quite natural to suppose, and I believe a fact generally accepted, that the high school principal is, from his position, better able than any person without this particular experience to decide upon the conditions most suitable for good study.

RESULTS OF A PERSONAL INTERVIEW WITH TEN EXPERIENCED SCHOOL PRINCIPALS

The following statements are a summary of the items suggested by the above named group as contributing to good study

1. N. E. A.-Report Com. on School House Planning 1925, Page 74

hall conditions.

These items are placed in order of the frequency that they were suggested, beginning with number 1.

1. Each pupil must have a station that permits him to write and do notebook work.

2. The lighting conditions must be good, both as to natural and artificial lighting.

3. The study hall must afford easy, quick, and quiet access to the school library.

4. The location in the building should give a minimum of student passing.

5. The study room and some other room should be combined by serving more than one use.

6. A teacher suited to this particular kind of duty should be in charge.

7. The study hall must be convenient to drinking fountains and toilet rooms.

8. The study hall should have a seating capacity of 20% of the school enrollment.

9. The study hall should permit after school study.

10. Entrance to the study hall should not necessitate passing through other rooms.

11. Activities of the classes should not disturb study pupils in the study hall.

12. The well equipped study hall takes some study responsibility from the home.

the first time I have seen it. It is a very
handsome tree, and I hope to get some
seed from it. The leaves are large and
ovate, with serrated edges. The flowers
are white and fragrant. The bark is
smooth and greyish-white. The trunk
is straight and strong. The roots are
large and spreading. The tree is
about 15 feet tall. The leaves are
about 8 inches long and 4 inches wide.
The flowers are about 1 inch in diameter.
The bark is about 1/2 inch thick.
The roots are about 1/2 inch in diameter.
The tree is very hardy and can withstand
extreme weather conditions. It is
a good addition to any garden or landscape.

13. The study hall or library should serve as a place for patrons to hold evening meetings.

14. The study hall should give all the physical advantage of a modern room in the pupils' home.

15. Study hall responsibility should make less home study necessary.

16. No pupils should have to recite in the study hall.

17. Color of walls and ceiling, heating, and lighting should conform to accepted standards.

18. Each study hall should have a bulletin board as well as blackboard space.

19. The study hall should cause the building to be used nearer 100%.

20. The large study hall should eliminate the necessity for home rooms in small schools.

21. The study hall should make possible a larger enrollment.

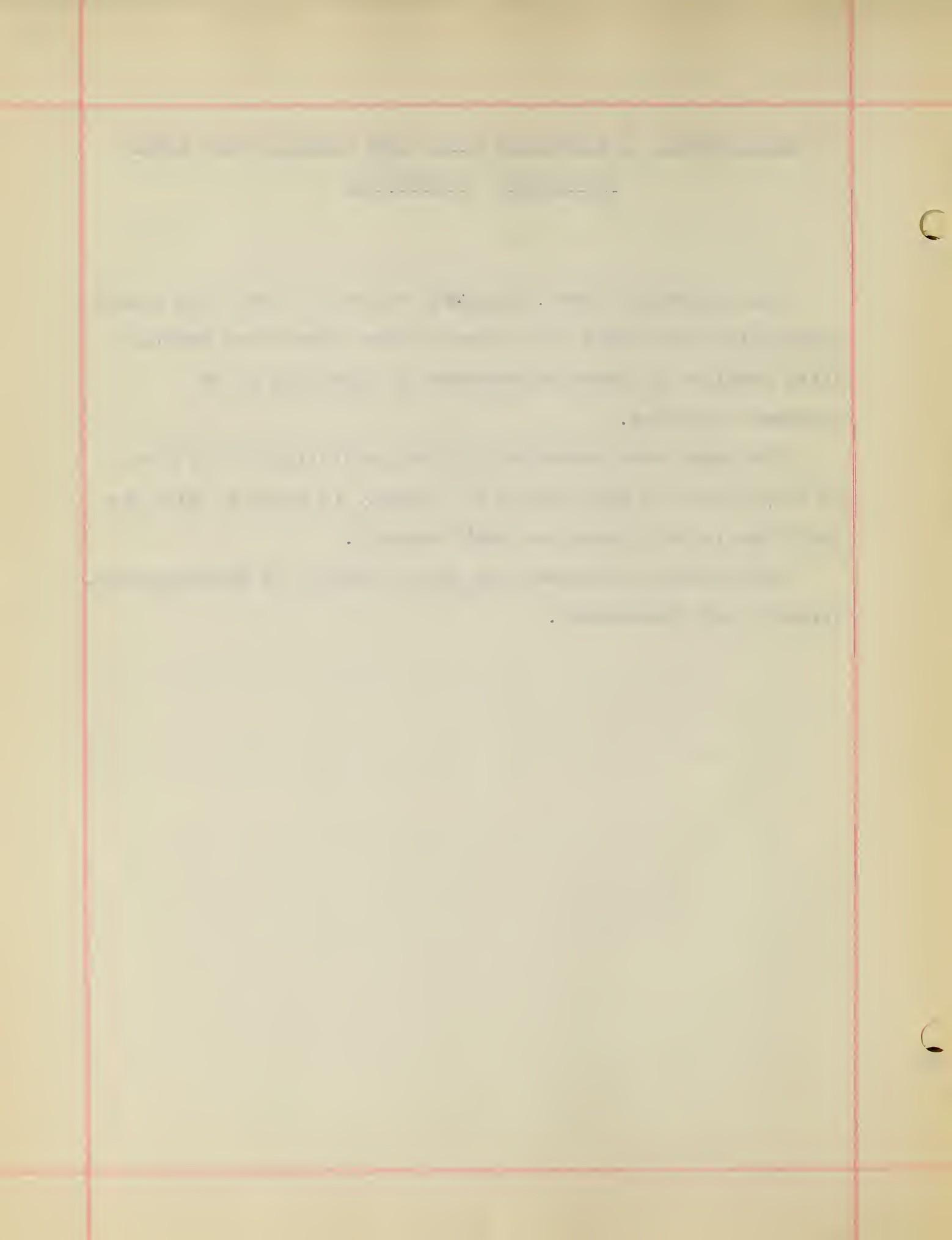
The above statements have been used as one source of information in Part II of this discussion, to determine the advantages and disadvantages of the various types of study rooms discussed.

A QUESTIONNAIRE TO DETERMINE STUDY HALL PRACTICES AND LEARN
PRINCIPALS' PREFERENCES

The following letter, Page 43, was sent to 280 high school principals whose names and addresses were taken from printed lists compiled by state departments of education or by teachers' agencies.

The names were determined by the population of the town or city where the high school is located, in order to give the practices in both large and small schools.

The schools are taken from those located in Massachusetts, Vermont, and Connecticut.



Dear Sir:

In preparing an article on "High School Study Halls," the writer desires more material than has been published on this subject, and will be pleased if you will help him by answering the two questions at the foot of this page, and returning at your earliest convenience.

Types of Study Halls in Use.

1. The library used as a study hall.
2. The library with adjoining study hall.
3. The vacant recitation room used as a study hall.
4. The recitation room with pupils studying in the rear seats.
5. The combination auditorium and study hall.
6. The combined lunch room and study hall.
7. The auditorium or gymnasium balcony study hall.
8. The main room large enough to seat the entire school.
9. _____
10. _____

Which do you use in your school? Number _____

Which type do you prefer? Number _____

Albert T. Patty

265 Main Street

Franklin, Massachusetts

RESULTS OF ANSWERS RECEIVED FROM QUESTIONNAIRE

(Page 43)

Schools Making Reply-----200

Per cent of Schools Using More than One Type 74%

Per cent of each type in use:

1-----7%

2-----22%

3-----20%

4-----27%

5-----10%

6-----1%

7-----1%

8-----12%

9-----0

10-----0

Per cent of Schools Favoring Each Type:

1-----6%

2-----25%

3-----37%

4-----0

5-----6%

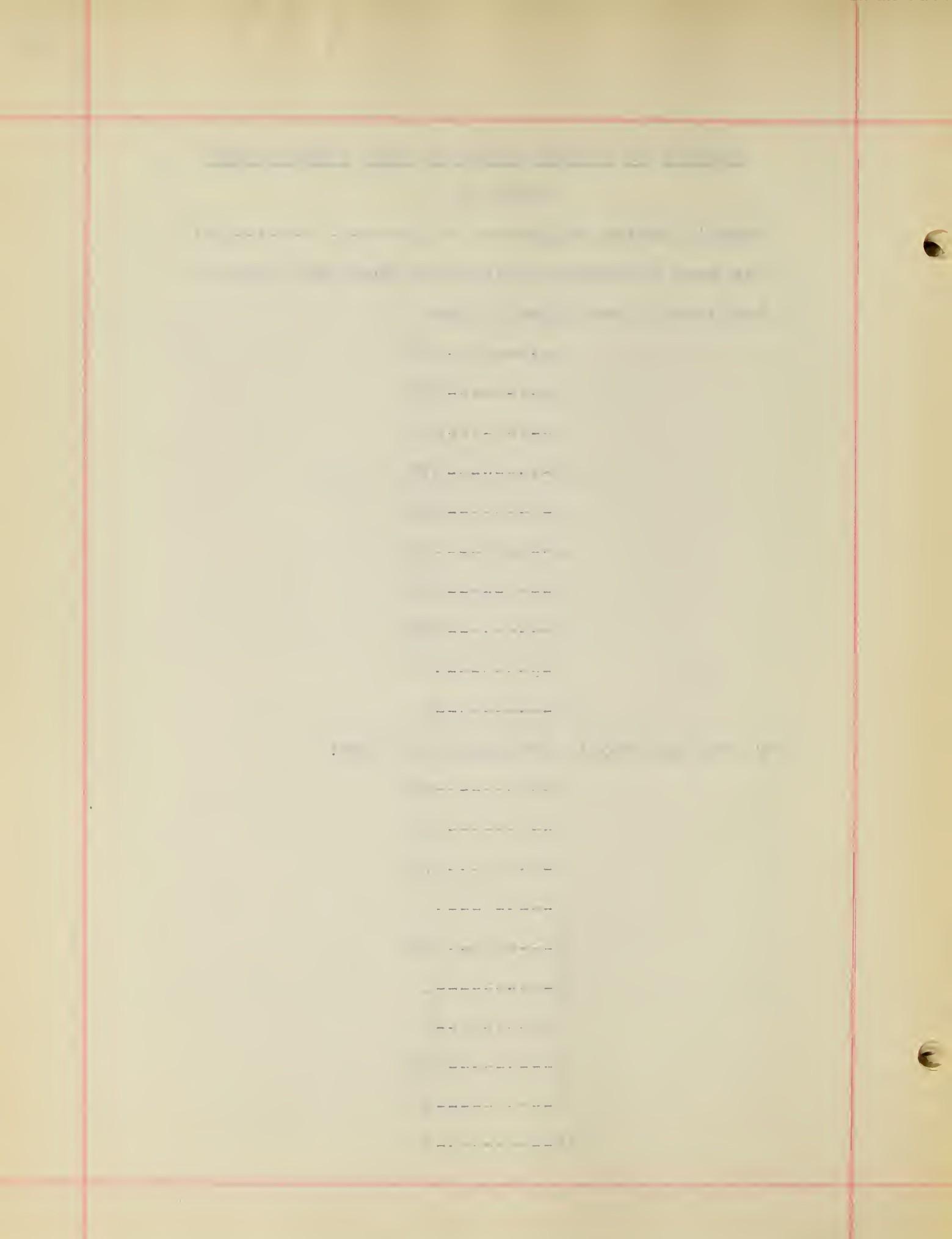
6-----0

7-----0

8-----25%

9-----0

10-----0



ANALYSIS OF ANSWERS RECEIVED

The wide spread of different types of study halls shows at once that principals have been obliged to use any available room for study pupils. It also shows the crowded conditions in general, and the principal's problem is now a question of space without regard to recognized standards.

All of these various practices cannot be regarded as efficient or desirable, so necessarily the study conditions in some schools have lowered the effectivenss of the work of these schools. I am inclined to believe that these situations will be eliminated in many schools when industry recalls those who have of recent years flocked into school.

The large per cent favoring Type 3, the vacant recitation room as a study hall, is a rather surprising situation. I am of the opinion, judging from the objections stated on the questionnaire, that this is not a choice of study room that gives best conditions, and must have been made without due consideration. Possibly a lack of professional study on the part of the large group of principals is responsible for not choosing a type that has less disadvantages. Also, Type 3 being a ready solution as the rooms were available has probably influenced its choice as a preference by the group reporting.

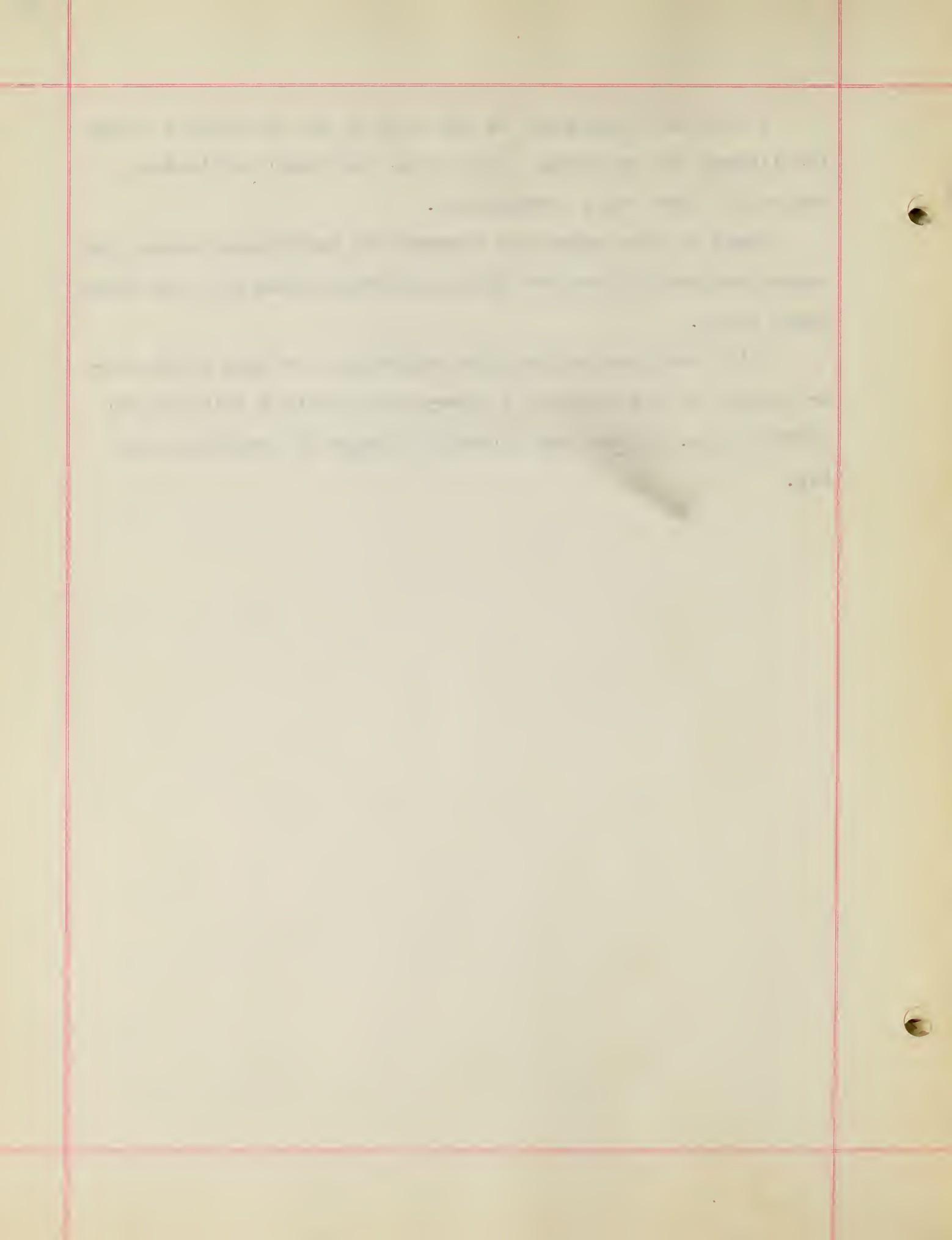
Types 2 and 8, the others preferred, are generally scored as favorable, and bear out the contention of the conclusion of this paper.

the first time in 1960. In 1961, the first
of the new buildings was completed, and
in 1962, the second. The third building
was completed in 1963, and the fourth
in 1964. The fifth building was com-
pleted in 1965, and the sixth in 1966.
The seventh building was completed
in 1967, and the eighth in 1968. The
ninth building was completed in 1969,
and the tenth in 1970. The eleventh
building was completed in 1971, and
the twelfth in 1972. The thirteenth
building was completed in 1973, and
the fourteenth in 1974. The fifteenth
building was completed in 1975, and
the sixteenth in 1976. The seventeenth
building was completed in 1977, and
the eighteenth in 1978. The nineteenth
building was completed in 1979, and
the twentieth in 1980. The twenty-first
building was completed in 1981, and
the twenty-second in 1982. The twenty-
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and the twenty-fourth in 1984. The
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in 1985, and the twenty-sixth in 1986.
The twenty-seventh building was
completed in 1987, and the twenty-
eighth in 1988. The twenty-ninth
building was completed in 1989, and
the thirty-first in 1990. The thirty-
second building was completed in
1991, and the thirty-third in 1992.
The thirty-fourth building was
completed in 1993, and the thirty-
fifth in 1994. The thirty-sixth building
was completed in 1995, and the thirty-
seventh in 1996. The thirty-eighth
building was completed in 1997, and
the thirty-ninth in 1998. The forty-
first building was completed in 1999,
and the forty-second in 2000. The
forty-third building was completed
in 2001, and the forty-fourth in
2002. The forty-fifth building was
completed in 2003, and the forty-
sixth in 2004. The forty-seventh
building was completed in 2005,
and the forty-eighth in 2006. The
forty-ninth building was completed
in 2007, and the fifty-first in 2008.
The fifty-second building was
completed in 2009, and the fifty-
third in 2010. The fifty-fourth
building was completed in 2011,
and the fifty-fifth in 2012. The
fifty-sixth building was completed
in 2013, and the fifty-seventh in
2014. The fifty-eighth building was
completed in 2015, and the fifty-
ninth in 2016. The sixty-first
building was completed in 2017,
and the sixty-second in 2018. The
sixty-third building was completed
in 2019, and the sixty-fourth in
2020. The sixty-fifth building was
completed in 2021, and the sixty-
sixth in 2022. The sixty-seventh
building was completed in 2023,
and the sixty-eighth in 2024. The
sixty-ninth building was completed
in 2025, and the seventy-first in
2026. The seventy-second building
was completed in 2027, and the
seventy-third in 2028. The
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seventy-fifth in 2030. The
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seventy-ninth in 2084. The
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seventy-ninth in 2086. The
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completed in 2087, and the
seventy-ninth in 2088. The
seventy-ninth building was
completed in 2089, and the
seventy-ninth in 2090. The
seventy-ninth building was
completed in 2091, and the
seventy-ninth in 2092. The
seventy-ninth building was
completed in 2093, and the
seventy-ninth in 2094. The
seventy-ninth building was
completed in 2095, and the
seventy-ninth in 2096. The
seventy-ninth building was
completed in 2097, and the
seventy-ninth in 2098. The
seventy-ninth building was
completed in 2099, and the
seventy-ninth in 20100.

I find much agreement in the case of the principals using the library and adjoining study rooms and their particular desire for that study arrangement.

There is less agreement between the individuals using the vacant recitation room and their preference than with the above named group.

This convinces me that the preference for Type 3 was made on account of its offering a ready and immediate solution for difficulties, rather than a decision based on comparison and use.



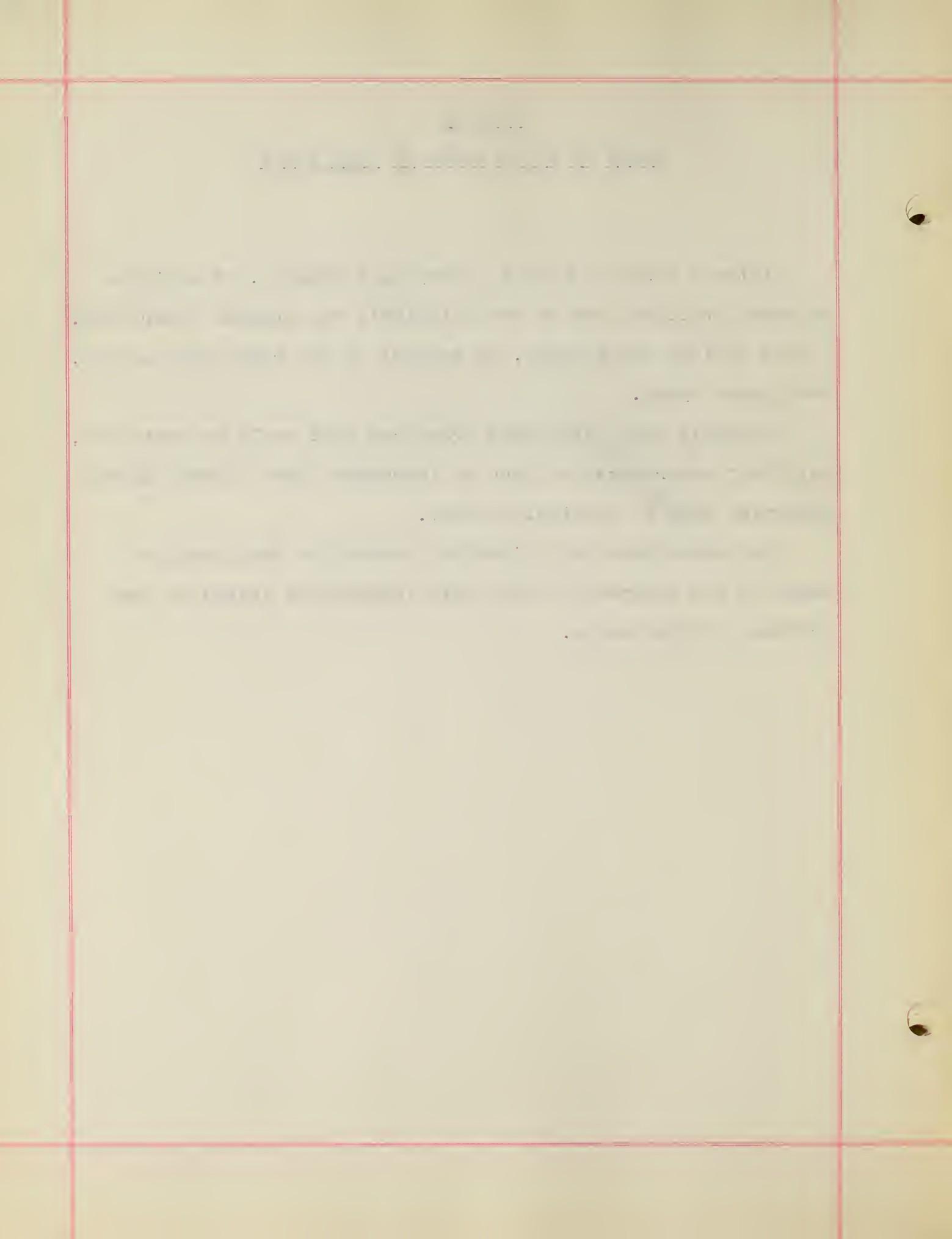
PART II

TYPES OF STUDY HALLS IN COMMON USE

After a visit to each of fifty high schools, in addition to those presided over by the principals who granted interviews, I have divided study halls, on account of the rooms they occupy, into seven types.

Possibly there are other practices that could be mentioned, but their occurrence has been so infrequent that I have omitted assigning them to particular types.

The advantages and objections stated for each type are based on the sources of study hall information stated in the preface of this thesis.



TYPE I

THE RECITATION ROOM WITH PUPILS STUDYING AT THE REAR OF THE ROOM

This plan consists of caring for pupils from an overcrowded study hall by permitting them to study in the vacant rear seats of a room where a recitation is being conducted.

The plan has its origin, in most cases, in one of the following conditions: 1st; the overcrowding of school buildings; 2nd, the failure of the builders to provide adequate study hall room for the enrollment of the school.

Few buildings are built today that make this condition necessary, unless there is overcrowding, which was caused by unexpected growth of the school population.

This method has many principals and teachers as objectors, and has been discarded by those planning modern buildings. 1

Advantages of this type of study room are:

1. Each pupil studying here has a permanent and adequate desk for his study station.
2. This plan uses pupil stations to nearer 100%.
3. It offers a quick solution for the principal.

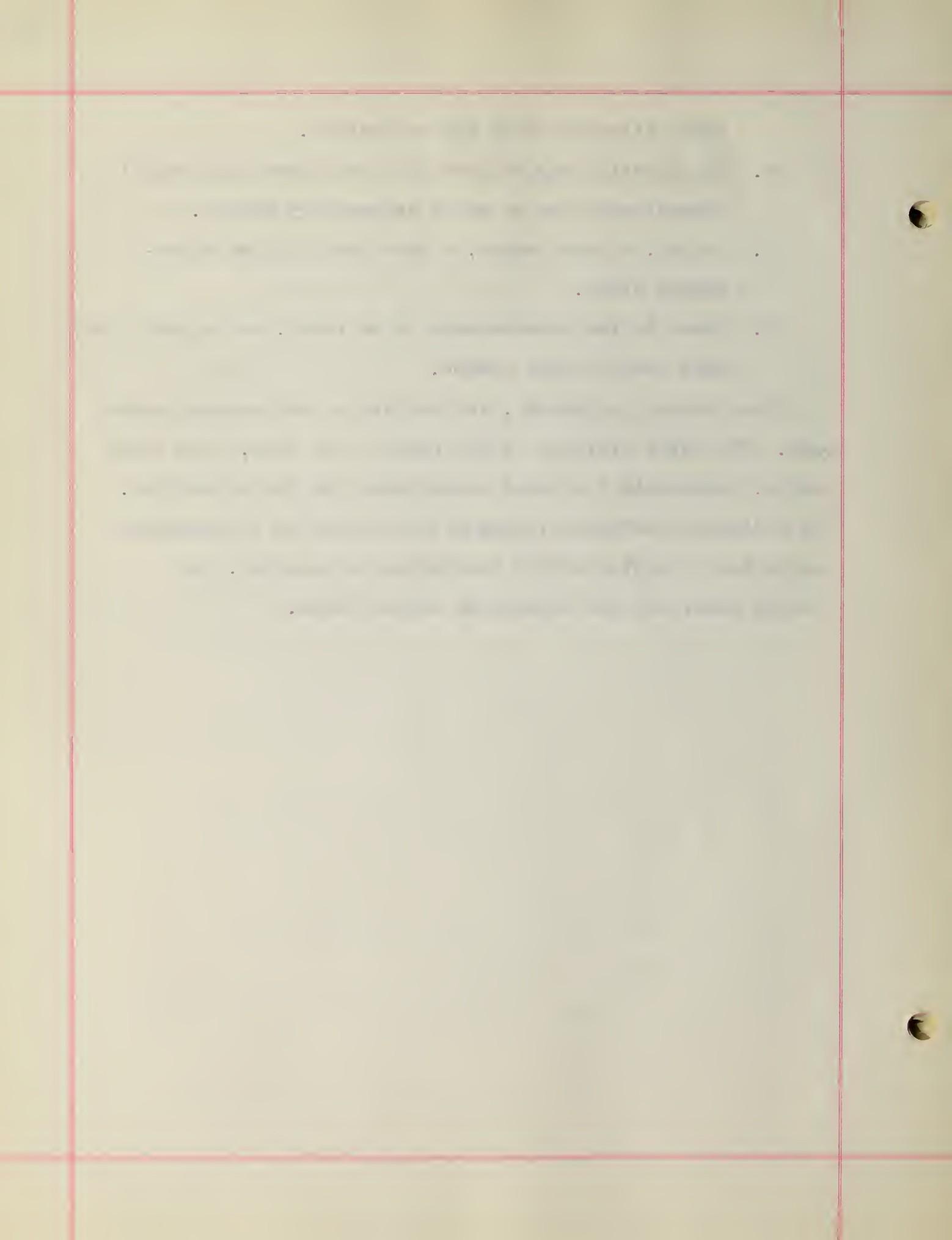
The disadvantages are:

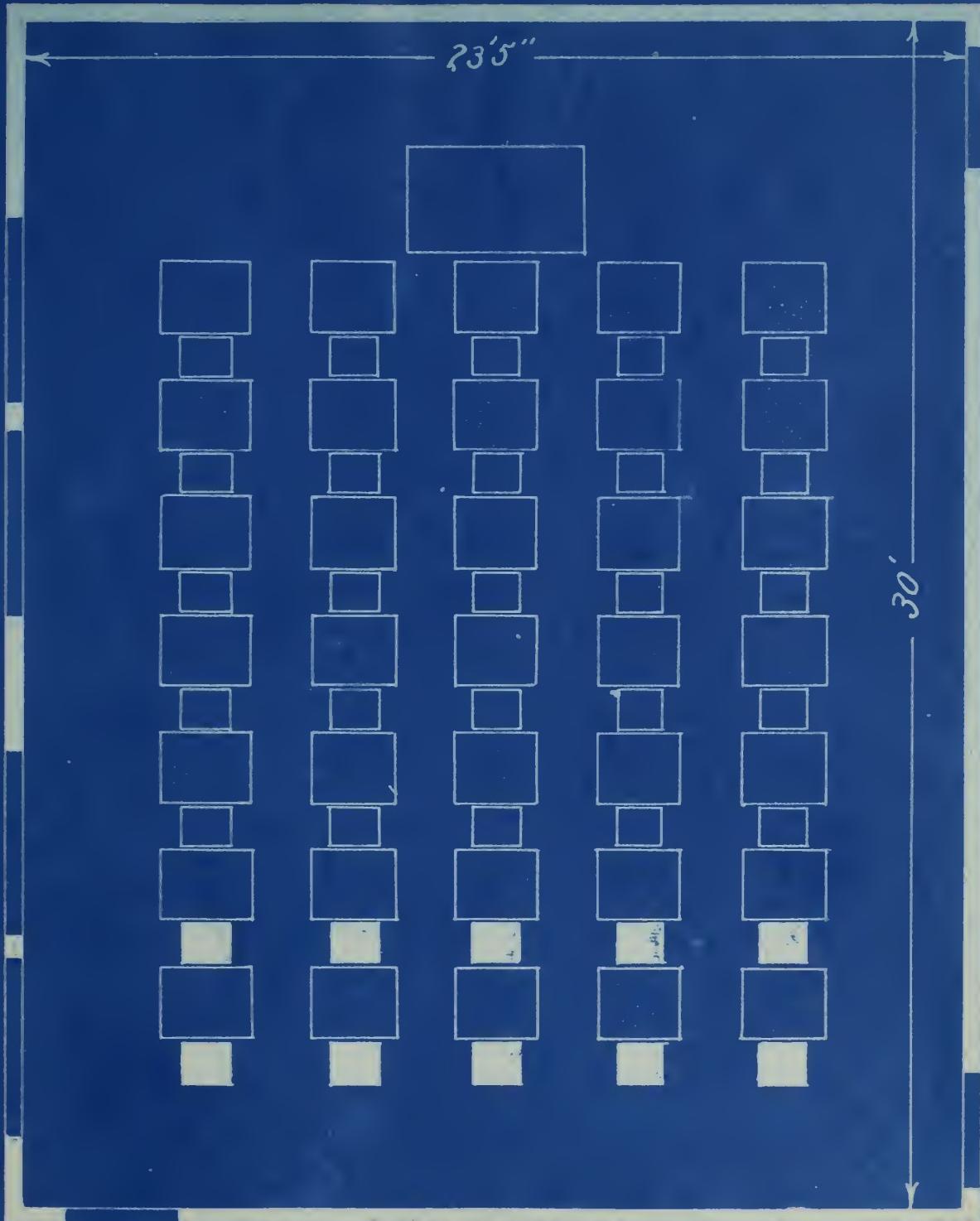
1. The pupils cannot do their best work with a recitation in progress.
 2. The recitation is disturbed by the necessary moving of study pupils.
 3. This plan makes an added duty for the teacher which
1. N. E. A. Committee on School House Planning 1925, Page 55

takes attention from the recitation.

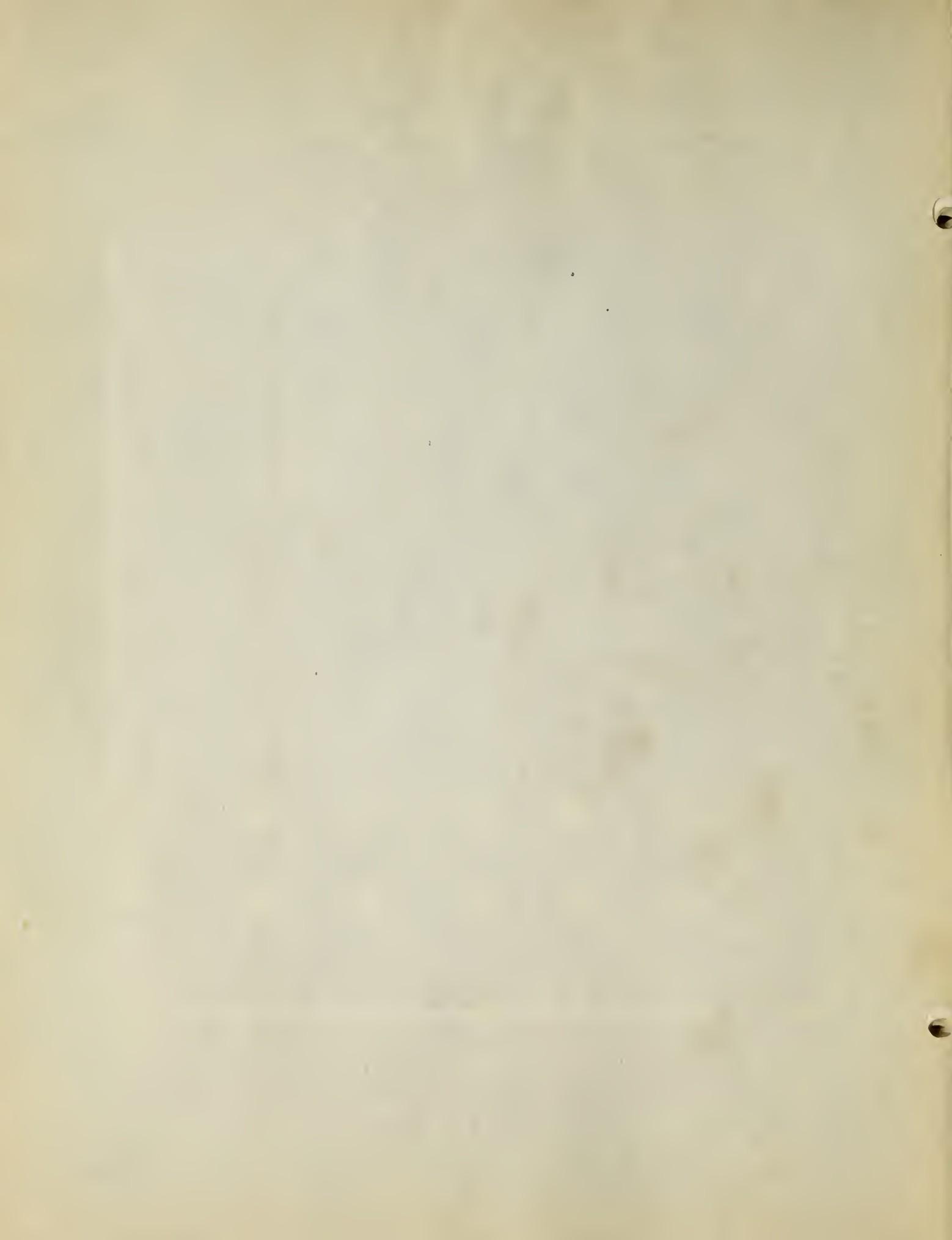
4. The location may be poor for the library and school conveniences and so cause unnecessary travel.
5. It has, in most cases, a poor location for after-school study.
6. There is the disadvantage of no fixed, or regular study hall period after period.

The drawing on page 50, is the plan of the average school room. The pupil stations at the rear of the room, with study pupils, represents the usual arrangement for the above plan. The following photograph, page 51, was taken in a room where pupils were studying with a recitation in progress, and readily bears out the objections stated above.





TYPE NO. I

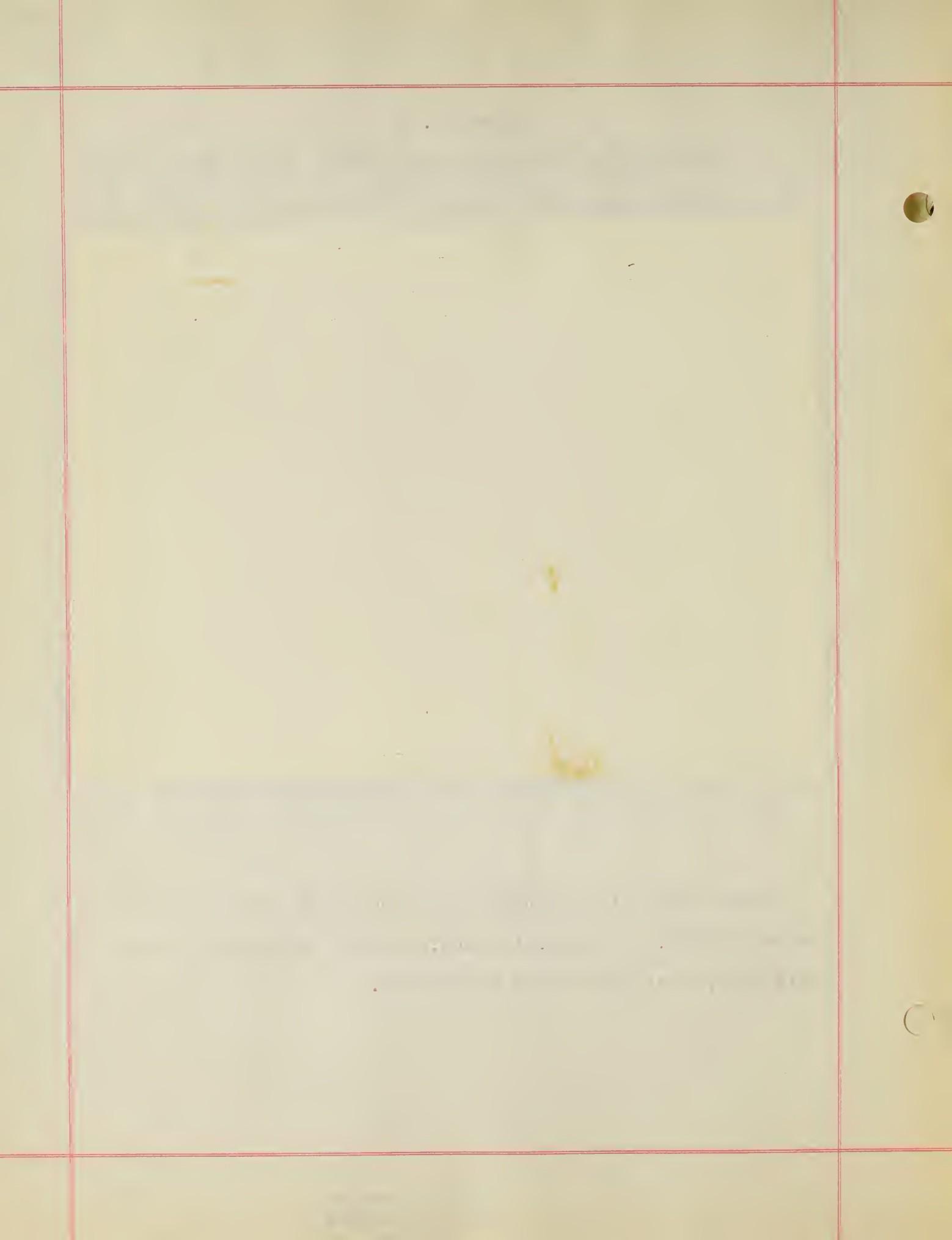


Type No. I

A RECITATION ROOM WITH STUDY PUPILS IN THE REAR SEATS



Study pupils in the rear seats are always disturbed by the recitation, and they, in turn, disturb the pupils who are reciting by necessary study activities.



TYPE II

THE VACANT RECITATION ROOM USED AS A STUDY HALL.

This plan provides for the use of any recitation room, not in use at a particular period, as a study hall with some teacher in charge who is free from class duty at the time. Usually the teacher whose class recites in this room is called upon to take charge of the room by taking the attendance, and caring for the discipline of pupils assigned there for study.

This plan has been in use from the time that such rooms were available, and will probably be used as long as there is need to care for the overflow from the regular study hall.

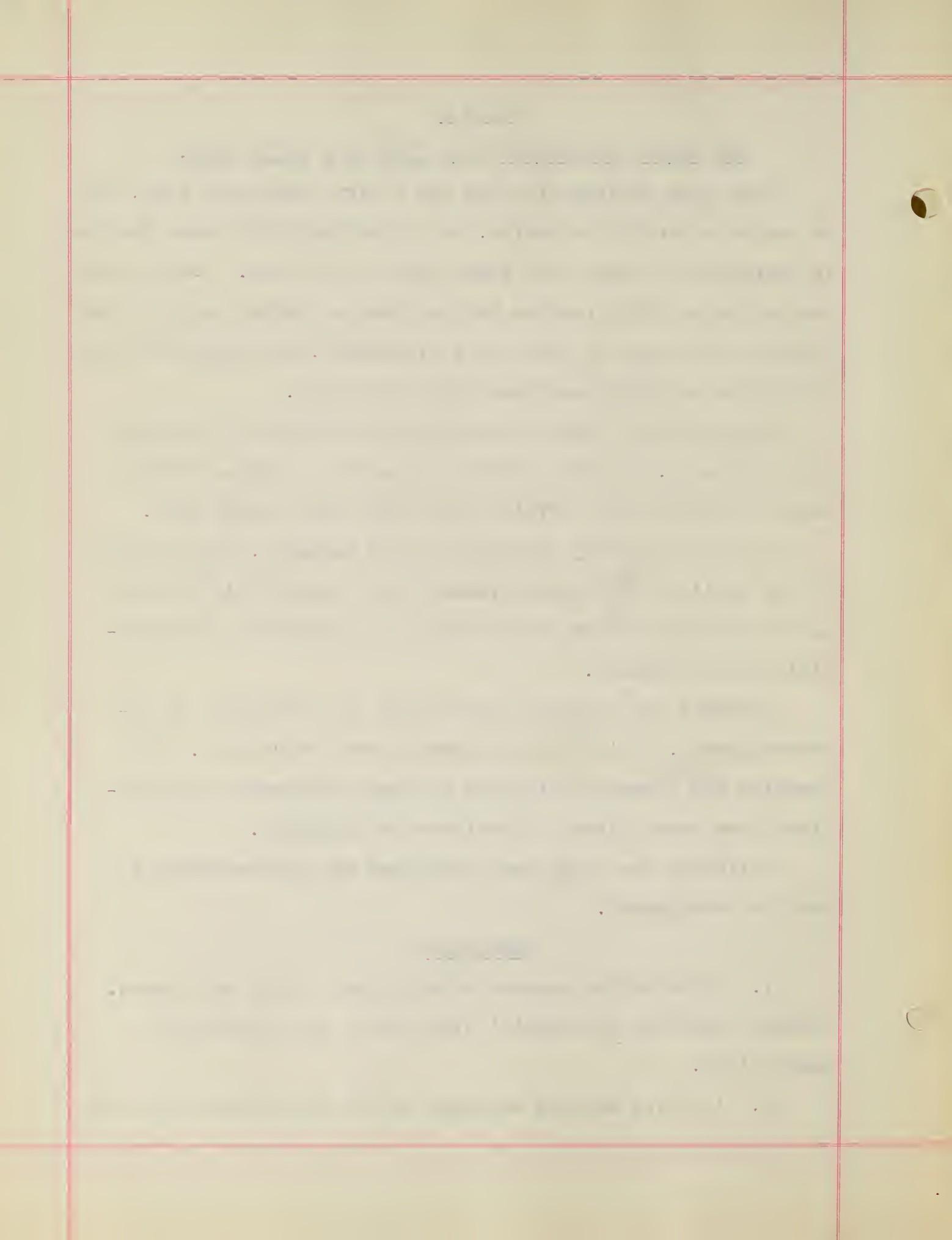
Its use is easily justified to the taxpayer, and its lack of the qualities that are necessary for a good study hall are not in evidence to the extent that it is unpopular with officials and the public.

Students and teachers are more apt to recognize its unfavorableness, as it becomes apparent from actual use. The location and library facilities are more noticeable as objections than those given to furniture and lighting.

Following are suggested advantages and disadvantages for such an arrangement.

Advantages

1. It saves the expense of additional study hall space, thereby utilizing the pupils' stations of the building to nearer 100%.
2. It gives an easy solution of the room problem for the



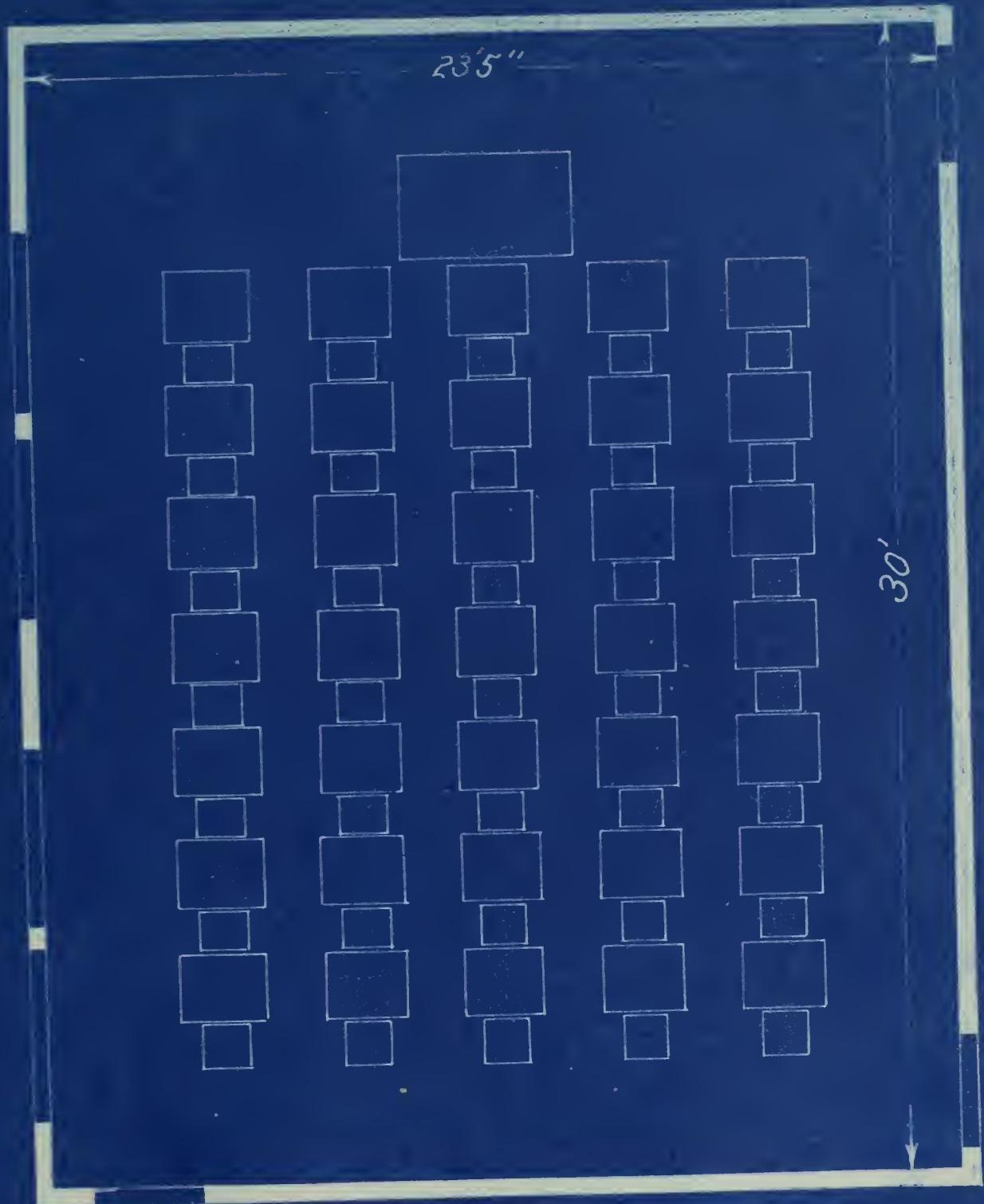
principal, and school officials.

3. Each pupil has a station.
4. Proper lighting is provided if this has been provided in the school originally.
5. Study groups are small.

Disadvantages

1. There is either a shortage of rooms or of teachers to supervise such rooms.
2. In many cases there is no access to school library at this period.
3. This plan eliminates the teacher's free period.
4. It has a poor location in the building for after school study.
5. It makes an unusual amount of passing by pupils.
6. It gives the disadvantage of no fixed study hall, period after period.
7. Many class-room teachers are not suited to study hall duty.
8. This plan requires the services of more teachers than the regular study hall.
9. It makes extra clerical work.

Page 54 shows a class room plan of seating for this type of room with its regulation thirty-five seats and no study hall equipment, other than found in the regular class room. The photograph on the following page was taken while a recitation room was in use as a study hall.



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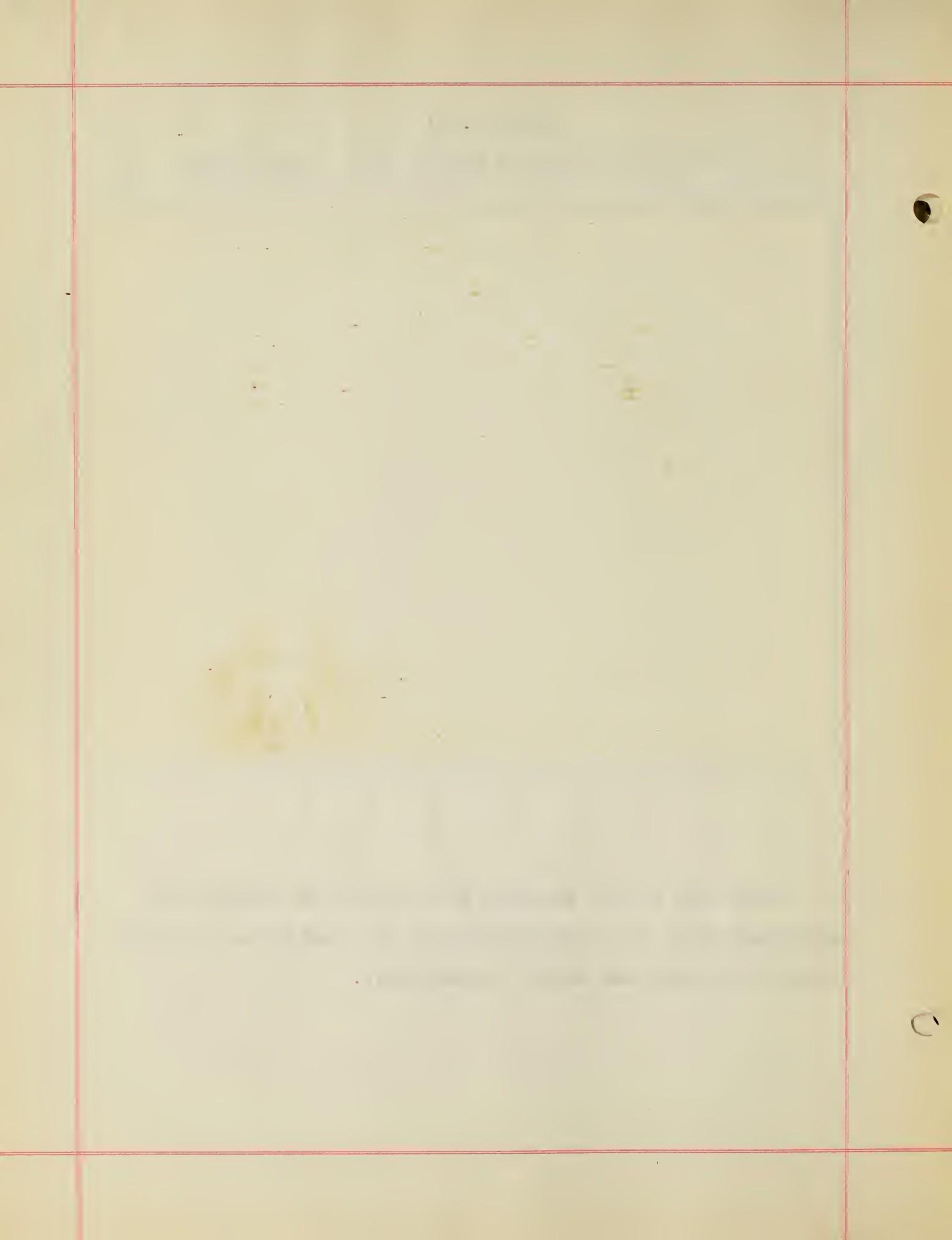
)

Type No. 11

THE VACANT RECITATION ROOM USED AS A STUDY HALL



This plan offers suitable stations and is regarded as satisfactory if it offers sufficient room and is not too far from the library and school conveniences.



TYPE III

THE AUDITORIUM STUDY HALL.

When there is an overcrowded study hall, the first available seated room with capacity to hold all study pupils is the auditorium. Often this use is carried to the extent that it is a permanent one, and often delays the provision of an adequate study hall.

If the entire seating capacity of an auditorium is used for study, the general standard for study size is violated, as the recommendation varies from sixty to not over two hundred pupils in one room. 1

Auditoriums or assembly halls are generally classified according to their seating capacity, the size of the stage, and the amount of permanent or fixed furniture. The auditorium that is farthest from a perfectly equipped room for theatrical purposes lends itself more readily to use as a study hall. This is caused by pupils who are seated in the center of the row having difficulty in leaving their position unless pupils seated in the same row rise. This condition condemns at the very start the regular opera chair seated auditorium for use as a study hall.

The minimum aisle in any school room must be twenty inches between the desks, and 36 inches between the wall and desks.

1. Frank Hart--A Standard State Schoolhousing Code, C. W.

Williams and Son, New York, 1924, Section 156, Page 157

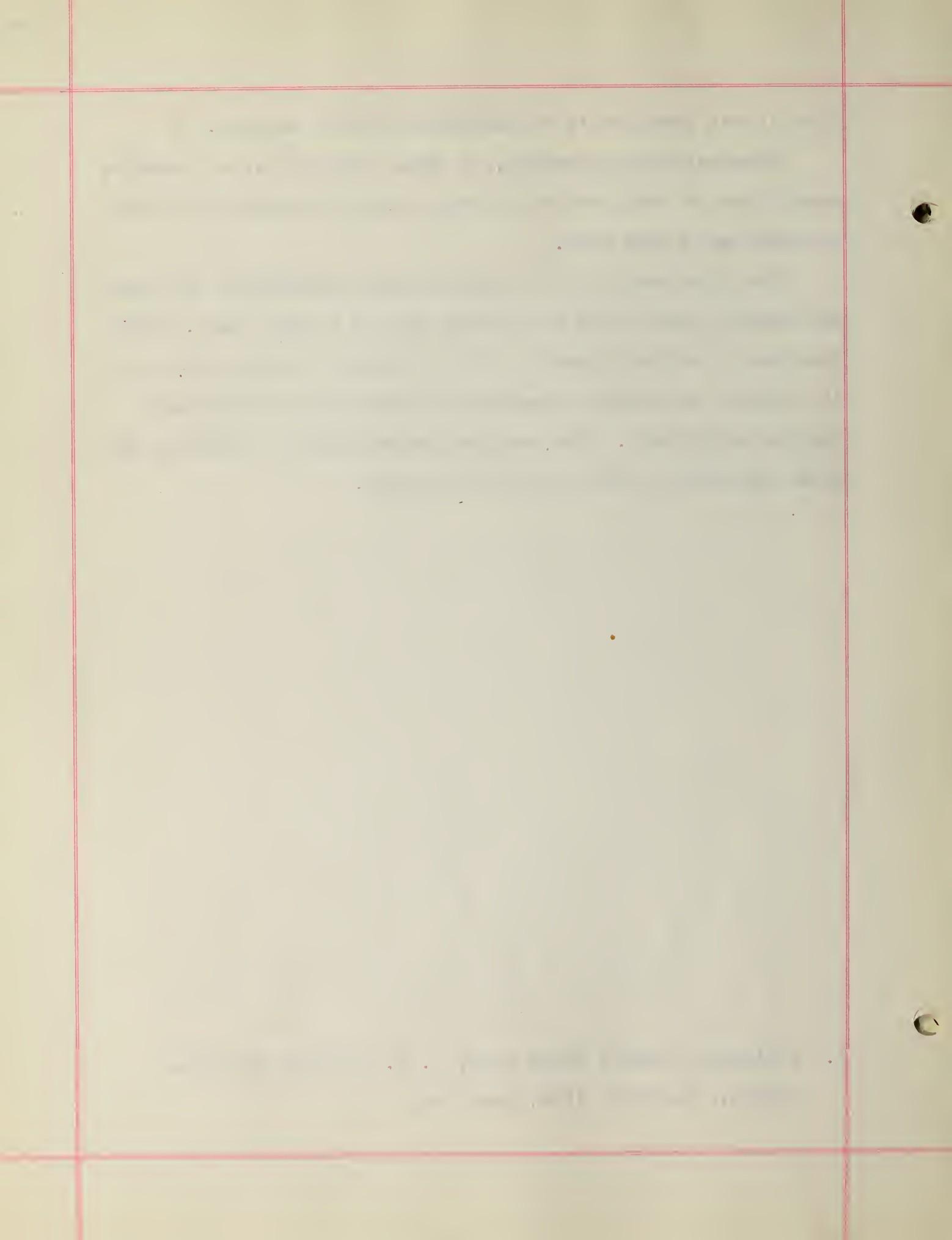
the same time, the number of species per genus is
also reduced. This is due to the fact that the
number of species per genus is proportional to
the number of genera per family. As the
number of genera per family is proportional to
the number of families per order, the number
of species per genus is proportional to the
number of families per order. This is true
for all orders, except the order of the
Insecta, which has a higher number of
families per order than the other orders.
The number of species per genus is also
proportional to the number of families per
order, but the proportionality constant is
different for each order. The proportionality
constant is highest for the order of the
Insecta, and lowest for the order of the
Mollusca. The proportionality constant
is also different for each family. The
proportionality constant is highest for
the family of the Diptera, and lowest
for the family of the Hymenoptera.

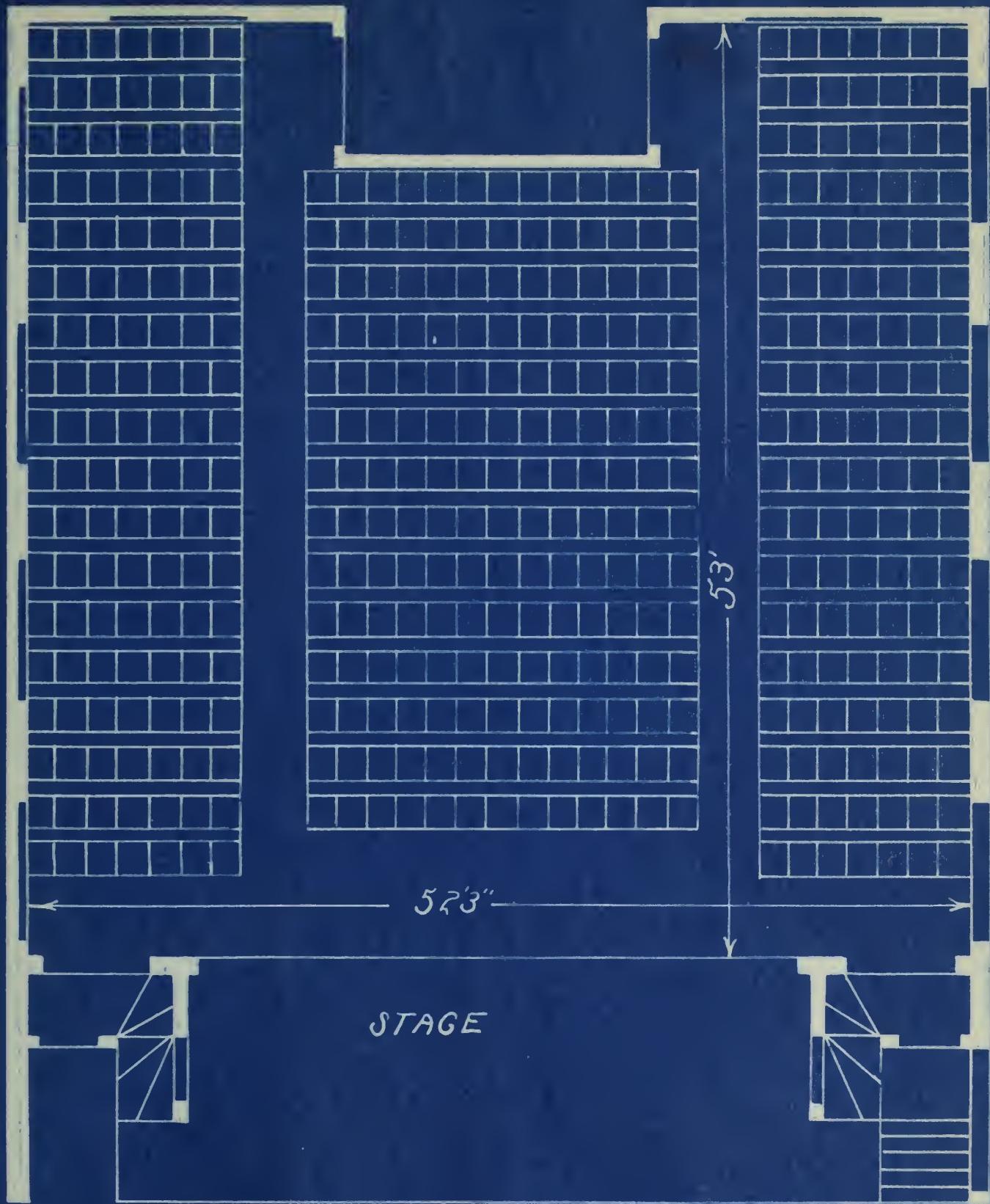
This is not possible in an auditorium seated as such. 1

Manufacturing concerns, in their catalogues, are showing many types of furniture which they propose as suited to both assembly and study hall.

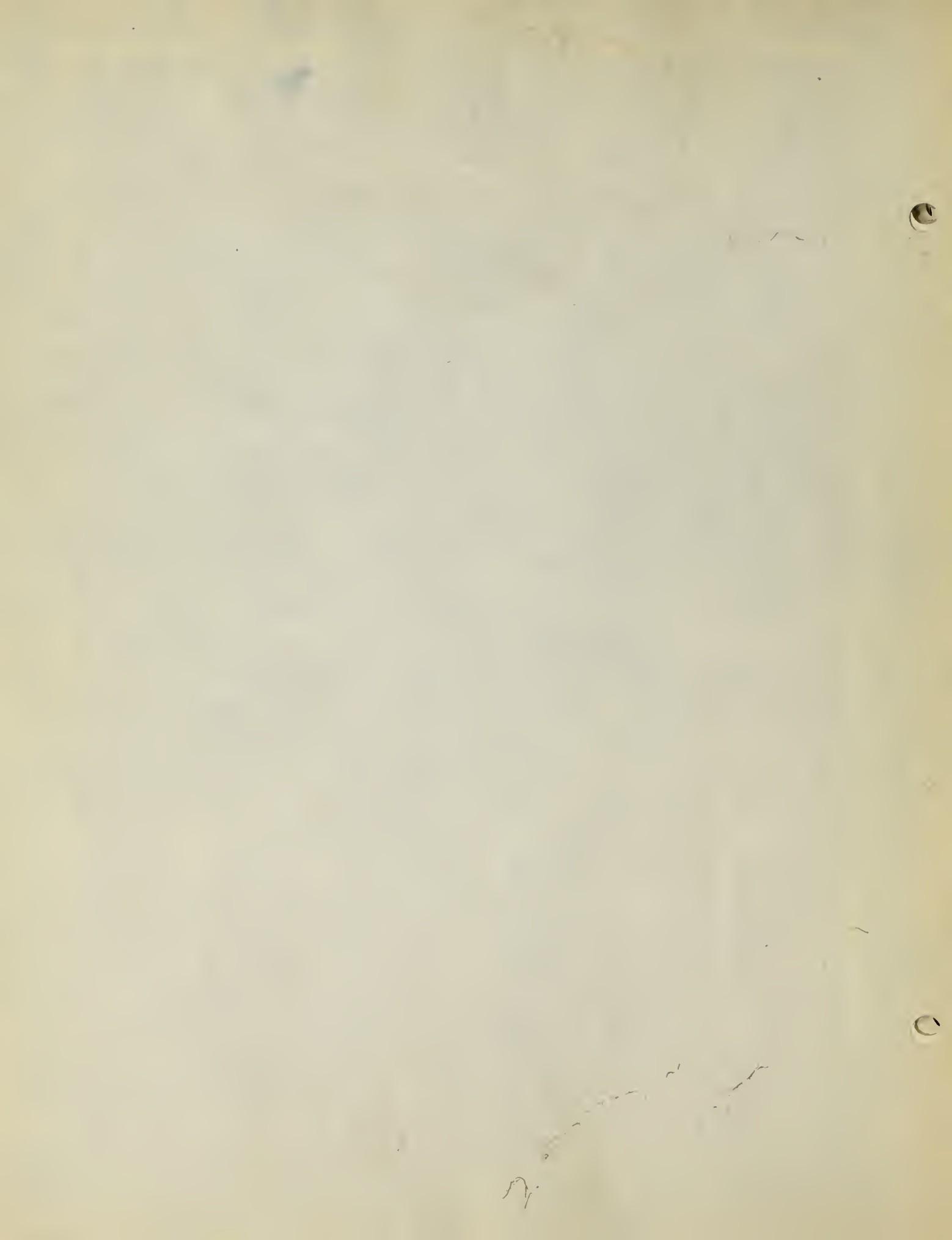
The blue print on the following page represents the floor and seating plan of an auditorium used as a study hall. This room has a seating capacity of four hundred twenty pupils, but is used for an average overflow of thirty pupils from the regular study hall. The photographm page 59, was taken in the same auditorium turing its use for study.

1. A Standard School House Code, C. W. Williams and Son, Albany, New York, 1924, page 145





TYPE No III



AUDITORIUM WITH STUDY PUPILS



Pupils using the auditorium as a study room when the regular room for study is filled.

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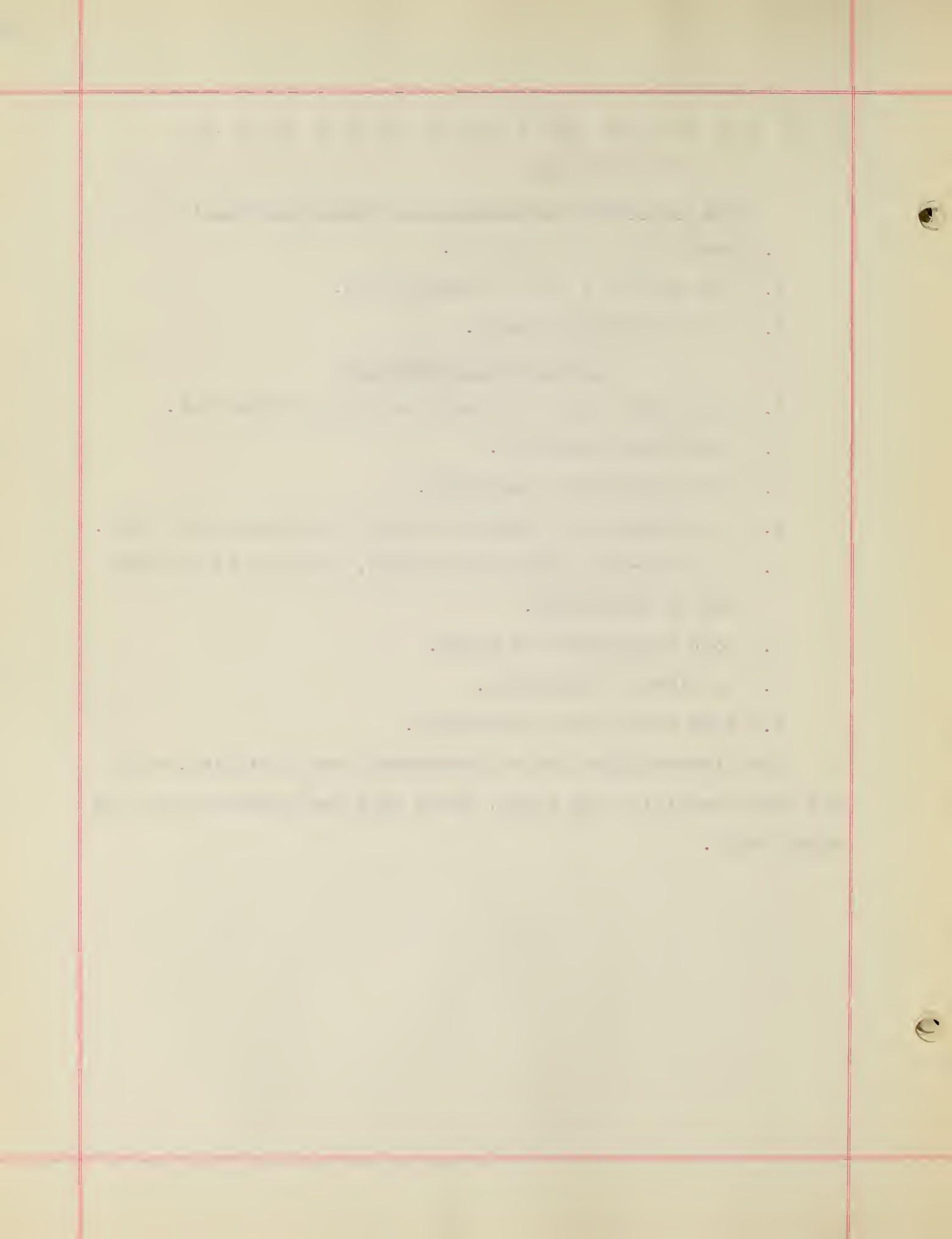
THE ADVANTAGES OF THIS TYPE OF STUDY HALL ARE:

1. Each pupil has a station.
2. All rooms are used to nearer 100%.
3. It is always available.

THE DISADVANTAGES ARE:

1. Artificial light is needed in parts of the room.
2. Unsuitable furniture.
3. Difficulty with discipline.
4. It requires more teachers than in ordinary study hall.
5. If study-hall furniture is used, the room is spoiled for an auditorium.
6. Poor atmosphere for study.
7. No library facilities.
8. Much moving about necessary.

The disadvantages are so pronounced that this plan, with the usual provision for study, meets very few standards set for study halls.



TYPE IV

THE LUNCH ROOM STUDY HALL.

The use of the high school lunch room for study pupils has not been in practice for so long a time as some other plans that high school principals have devised.

Schoolmen are not inclined to look with favor on this use, if the original intention of the double use, are: first, the room is available at all times, and during study periods is free from other use; second, the furniture is more nearly in conformity to library or study hall use than that of most rooms not planned for study purposes.

Among unfavorable features mentioned, with the older type of lunch room, are the cooking odors that pervade, because of lack of a ventilating fan or proper partition between the lunch room and food preparation room.

With modern building plans and construction, the above objection is easily eliminated, and, when viewed from an economical stand point, this type of study hall will probably come more frequently into use.

Buildings of the past have made use of basement rooms and other undesirable locations as the lunch room locations, but with many new buildings leaving out the basement room on account of lighting difficulties, a favorable place for both lunch room and study hall may be selected.

The photograph on page 64 was taken in a high school lunch room that serves the dual purpose, but was not so designed, and

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overcrowding of other rooms has forced the principal to accept this possibility.

The close proximity of the kitchen, the poor lighting arrangements, both natural and artificial, and the basement location do not permit ideal conditions, but the regular station for each pupil and table space lend some favor even to this situation.

On page 64 the room and equipment shown lend themselves to study purposes with fewer disadvantages, and this plan is endorsed by many principals. This room was built with the possibility of serving the double purpose.

Among the principal objections are:

1. The odor of cooking food is present so as to disturb study pupils.

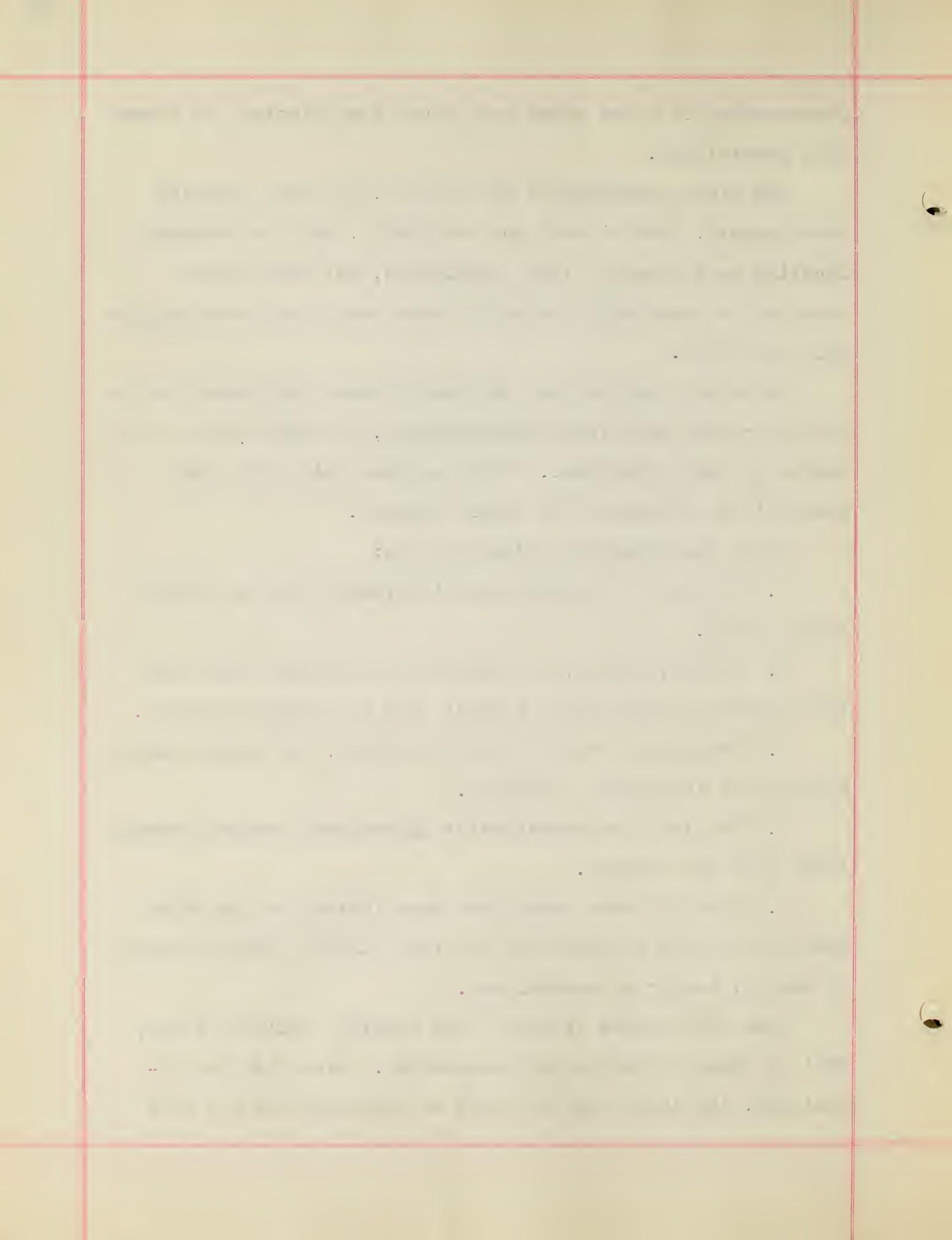
2. Tables, chairs, and floor are not always free from food particles on account of short time for janitor service.

3. Remoteness from the school library, and school rooms also form a legitimate objection.

4. The location necessitates unnecessary passing between study hall and classes.

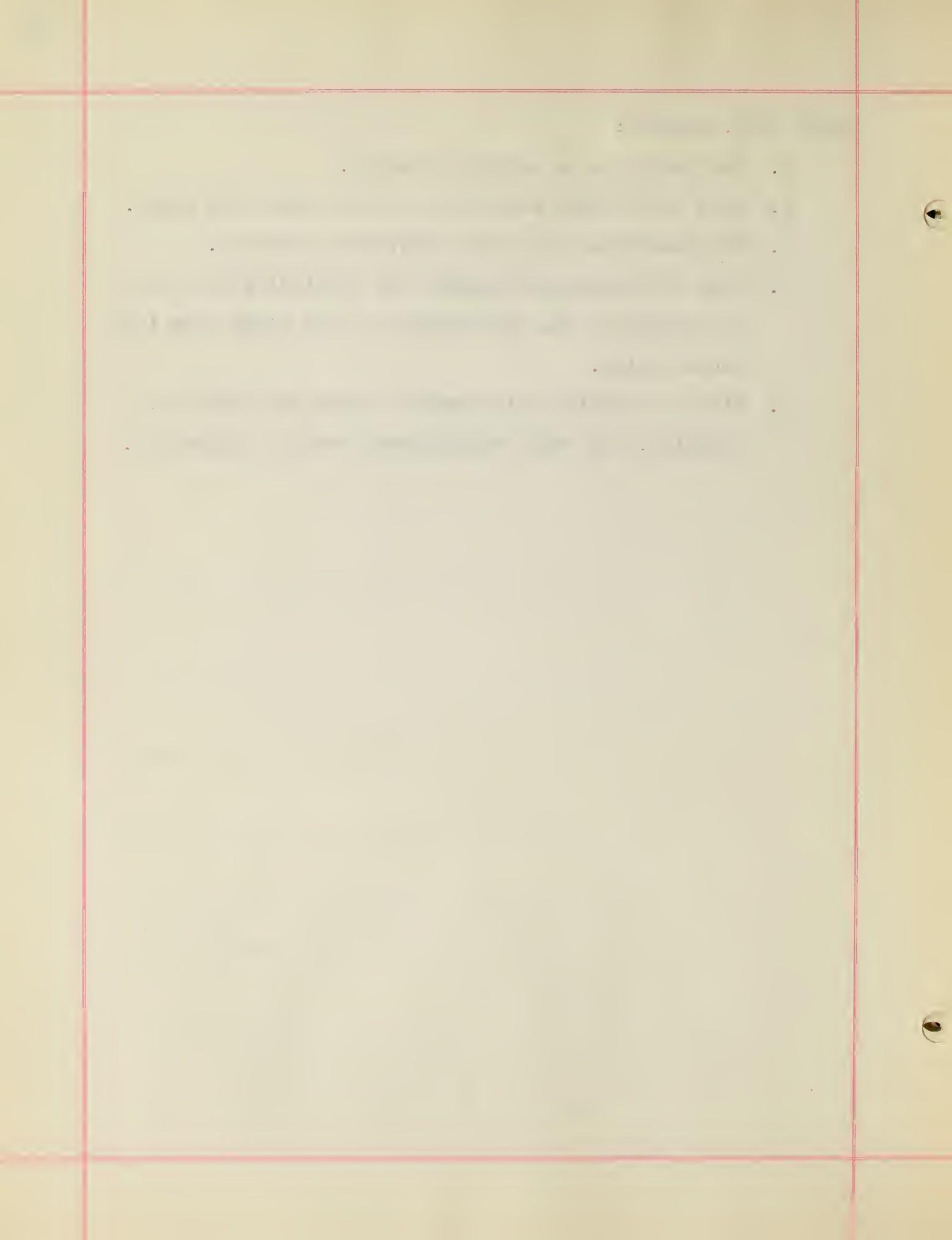
5. Usually lunch rooms have been located in the unused space that could be made over for that purpose without thought of design, beauty or convenience.

When this scheme is one of the original building plans, most of these objections may be avoided. Even with the objections, the lunch room has much to recommend its use as a



study hall, such as:

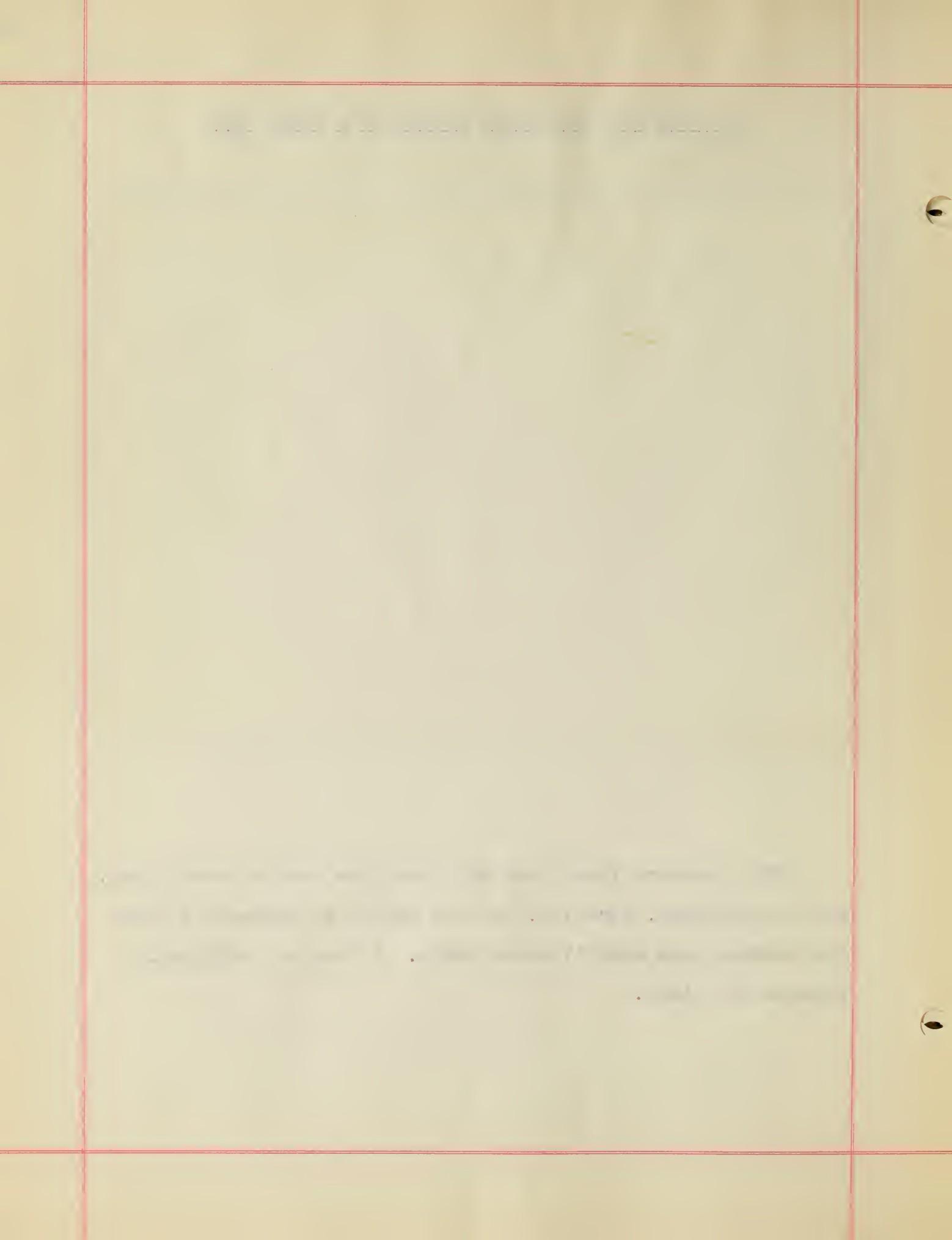
1. Each pupil has a suitable station.
2. This is the most economical of all study hall plans.
3. The furniture can easily serve both purposes.
4. Some city building programs are continuing the plan on account of the satisfaction it has given from its recent trial.
5. With the original plan proper regard for location, lighting, and other requirements are not impossible.



A LUNCH ROOM THAT ALSO SERVES AS A STUDY HALL



This basement lunch room will seat the entire study group, but its lighting, location, and its having no protection from the cooking room make it undesirable. It was not originally planned for study.



A LUNCH ROOM ARRANGED FOR STUDY IN THE ORIGINAL PLANS



This room does satisfactory service for both lunch and study, and as the original plan made provision to separate the cooking room and provide sufficient light, it meets study hall requirements.

the same time to the same great extent, and were
therefore compelled to go to Dublin, and to
remain there until their arrival.

TYPE V

THE OLD-FASHIONED MAIN ROOM

Before the public gave over the practice of using the school for community meetings and organization entertainments, all high school buildings were built with a room suited to this purpose.

Especially was this true in the smaller towns that did not have some other place that could be conveniently used as an auditorium.

This type of building was quite common in the nineties, and many are now standing that have that provision.

A room of this kind was usually used as a home room for all pupils, other rooms being designated as recitation rooms. It was also used as a combined study and recitation room, and, as the school increased in numbers, was often used as the general study hall, with one or even more than one recitation taking place in the room at the same time.

It was generally lighted on three sides, and many times has double desks, or single desks with aisles on one side only.

Following on page 8, the blue print shows an old-fashioned main room with a capacity of one hundred fifty pupils, with windows on the end and sides of the room.

Page 80 shows pupils at work in the same type room, with a recitation in progress on the side near the windows. This type of room, when properly lighted and located, may render excellent service for a school of seventy-five or less pupils. 1
l. N. E. A. Com. of School House Planning. Page 65, Part c.

the first time I have seen a specimen of the genus. It is a small tree, 10-12 m. high, with a trunk 10-12 cm. in diameter. The leaves are opposite, elliptic-lanceolate, 15-20 cm. long, 5-7 cm. wide, acute at the apex, obtuse at the base, entire, glabrous, dark green above, pale green below. The flowers are numerous, white, 5-petaled, 10 mm. in diameter,生于葉腋，或生于葉之先。花期在夏秋之交。

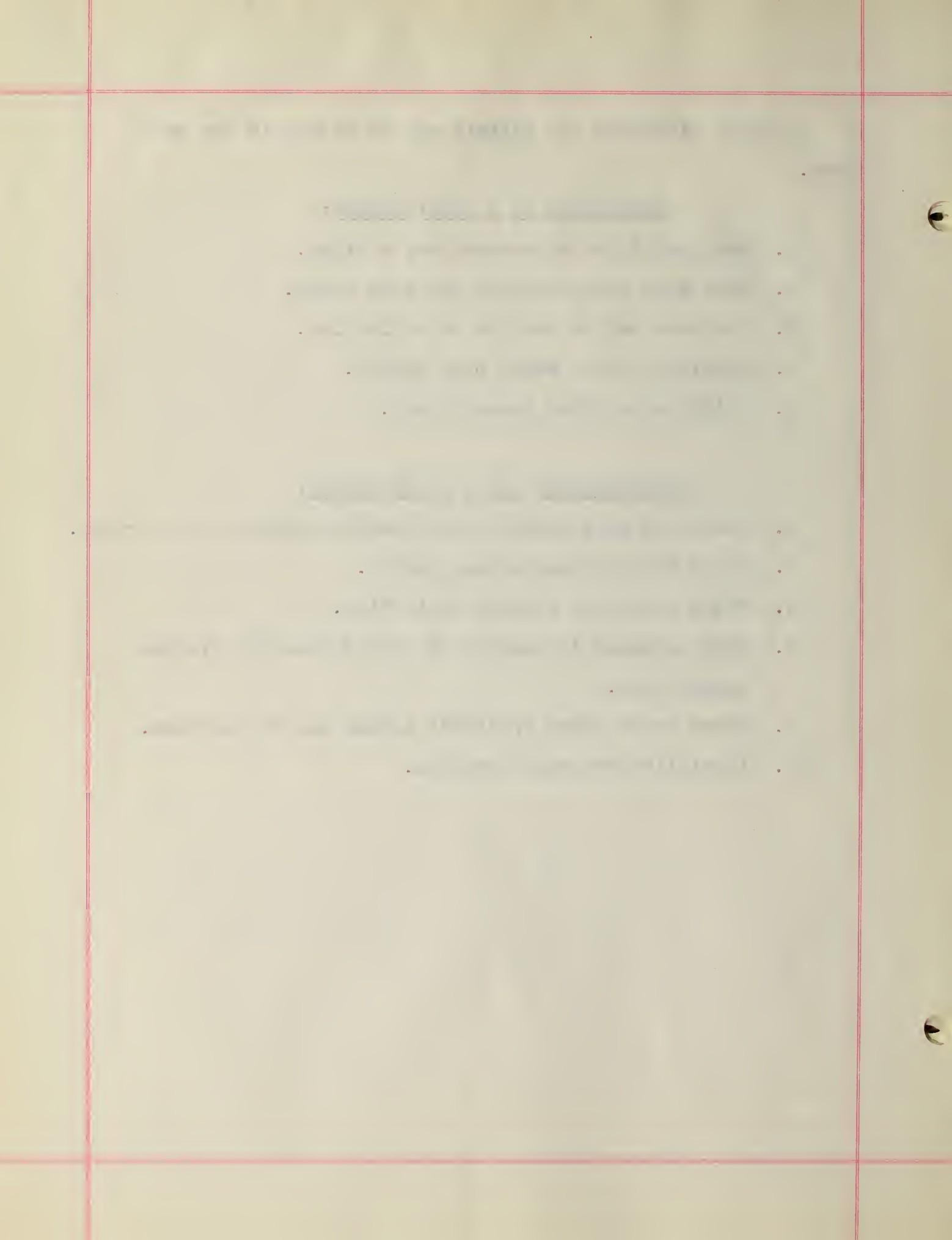
In this situation the library may be placed in the main room.

ADVANTAGES IN A SMALL SCHOOL:

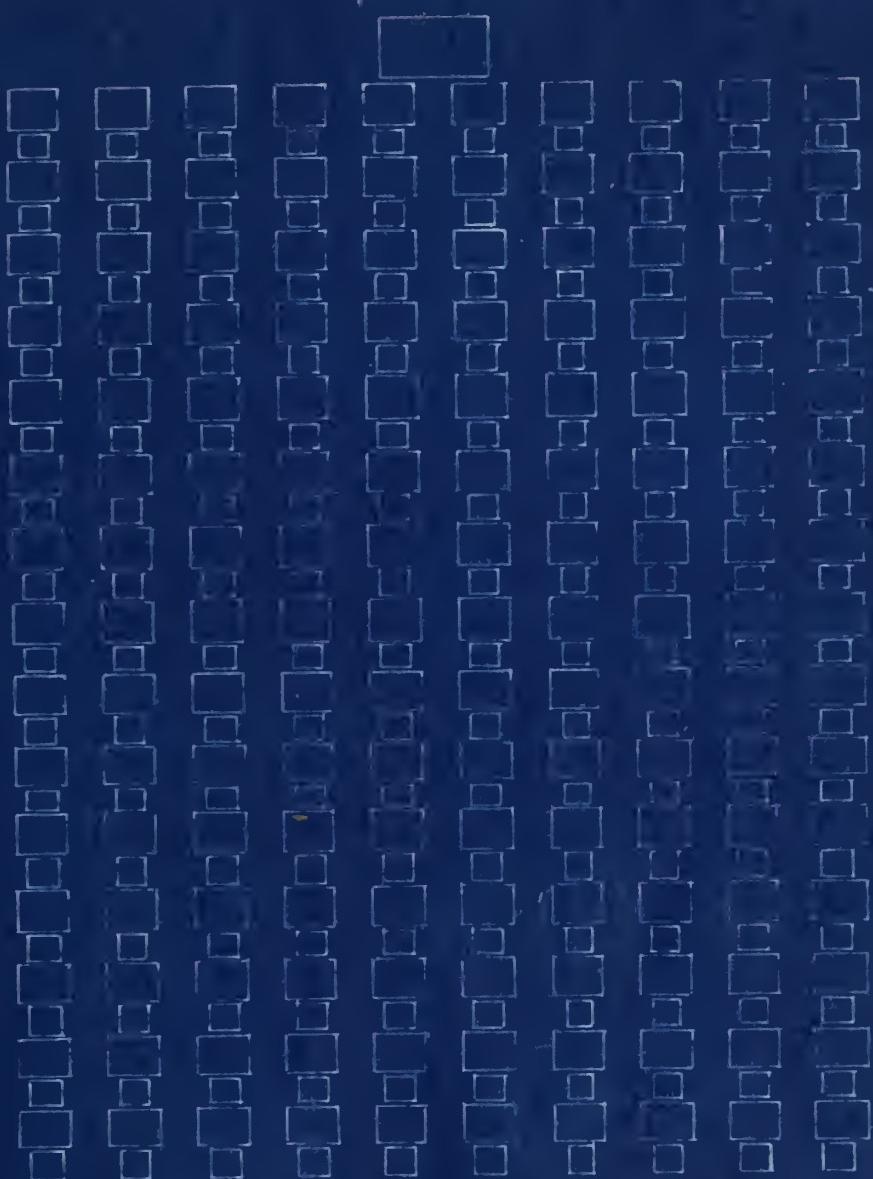
1. Each pupil has a satisfactory station.
2. Does away with the need for home rooms.
3. The room may be used as an auditorium.
4. Practical for a small high school.
5. Suitable to after school study.

DISADVANTAGES FOR A LARGE SCHOOL:

1. There are many vacant pupil stations during most periods.
2. There are too many moving pupils.
3. There may be no library facilities.
4. Poor lighting if the room is wider than the average school room.
5. There is no other practical school use of the room.
6. Discipline becomes a problem.

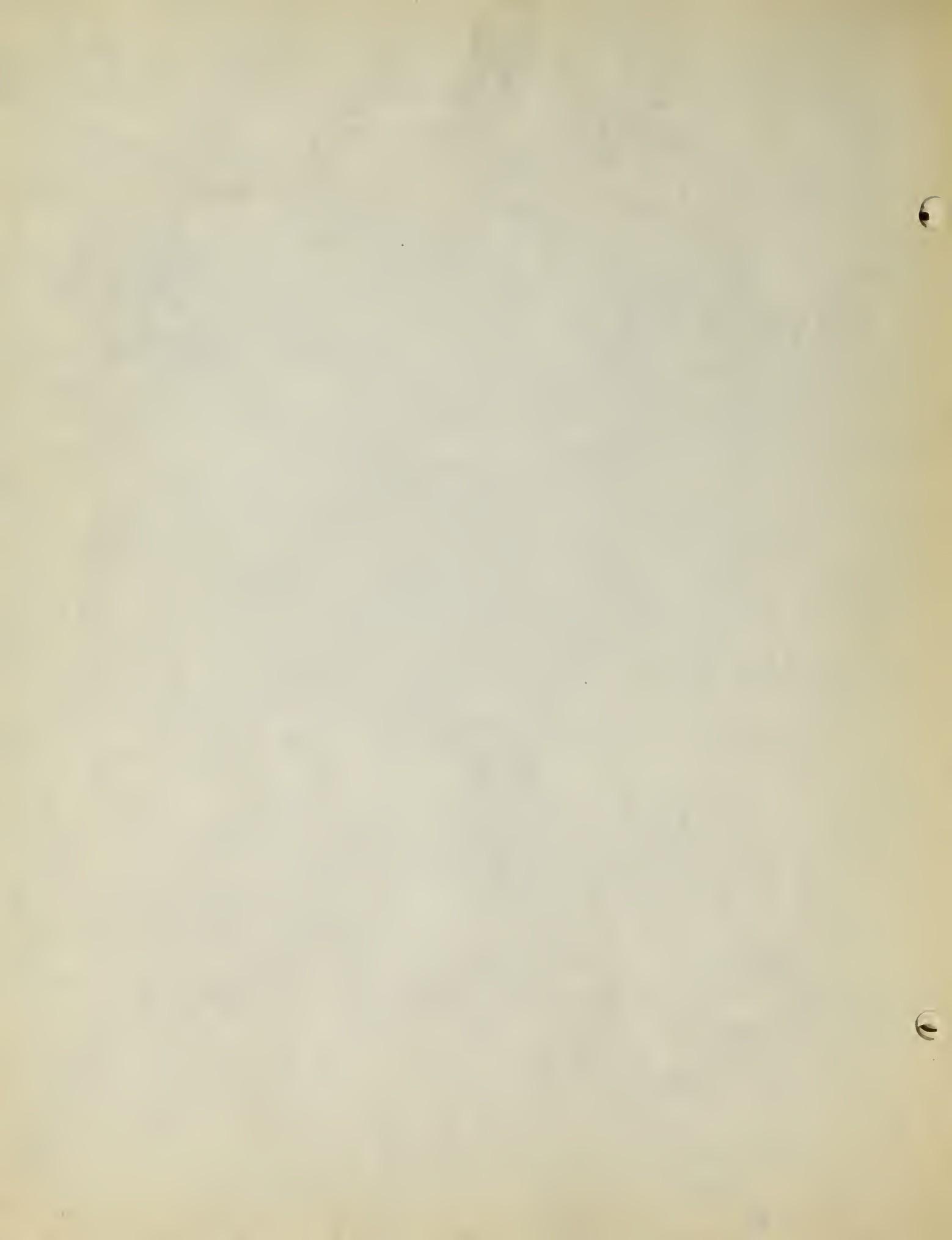


47'



60'

TYPE NO. V

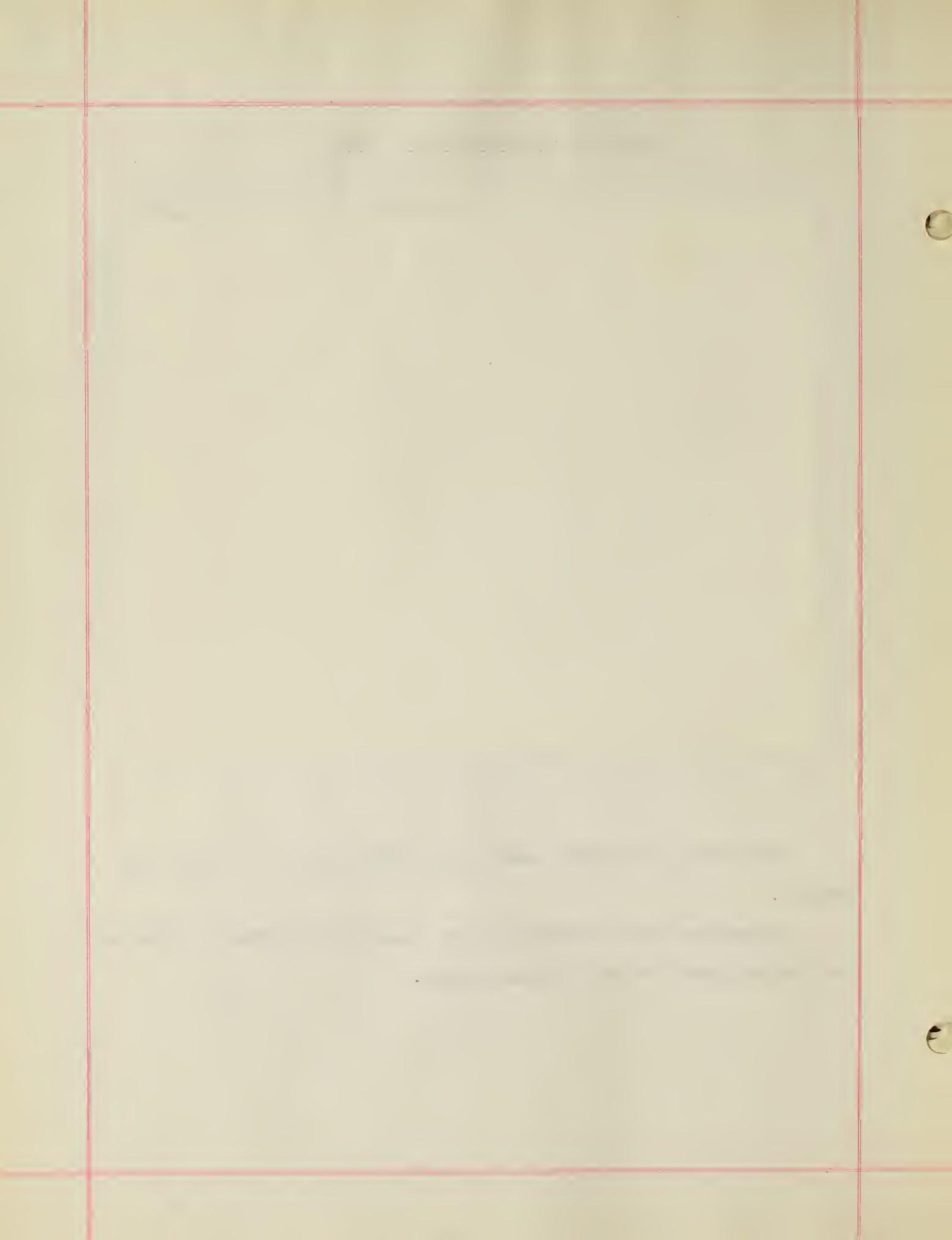


THE OLD-FASHIONED MAIN ROOM



The above photograph shows the study room in a large high school.

Objections from schoolmen have caused this type of room to be discontinued in most modern plans.

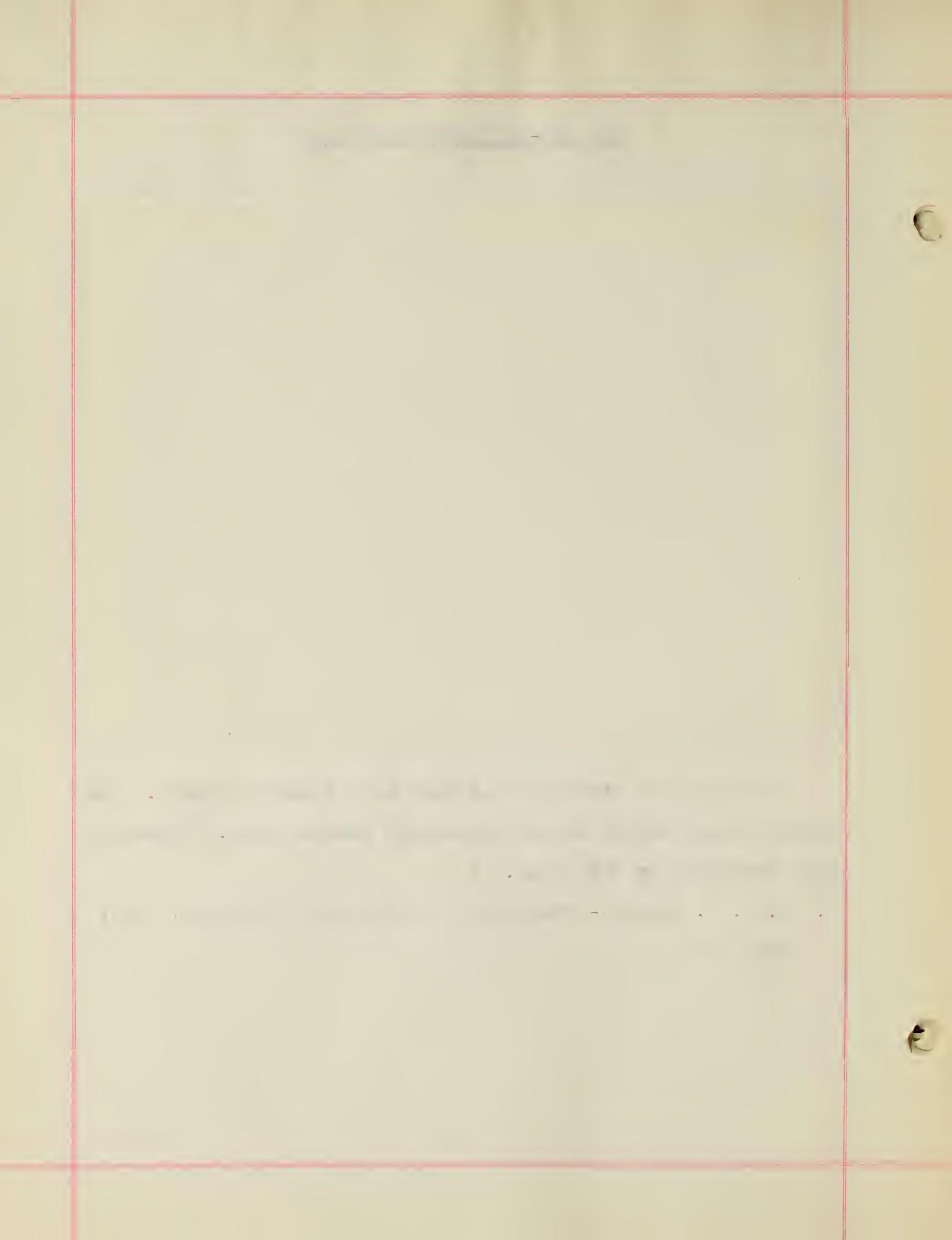


THE OLD-FASHIONED MAIN ROOM



This kind of study hall is favored for small schools. The room is large enough to seat the entire student body. Educators look favorably on this plan. 1

1. N. E. A. Report--Committee on School House Planning, 1925,
page 55



TYPE VI

THE GYMNASIUM OR AUDITORIUM BALCONY USED AS A STUDY HALL.

This plan is condemned by all schoolmen and has nothing to recommend it more than that each pupil has a station.

The blue print on the following page is the plan of a gymnasium, the balcony of which is in use as a study hall in an overcrowded high school building.

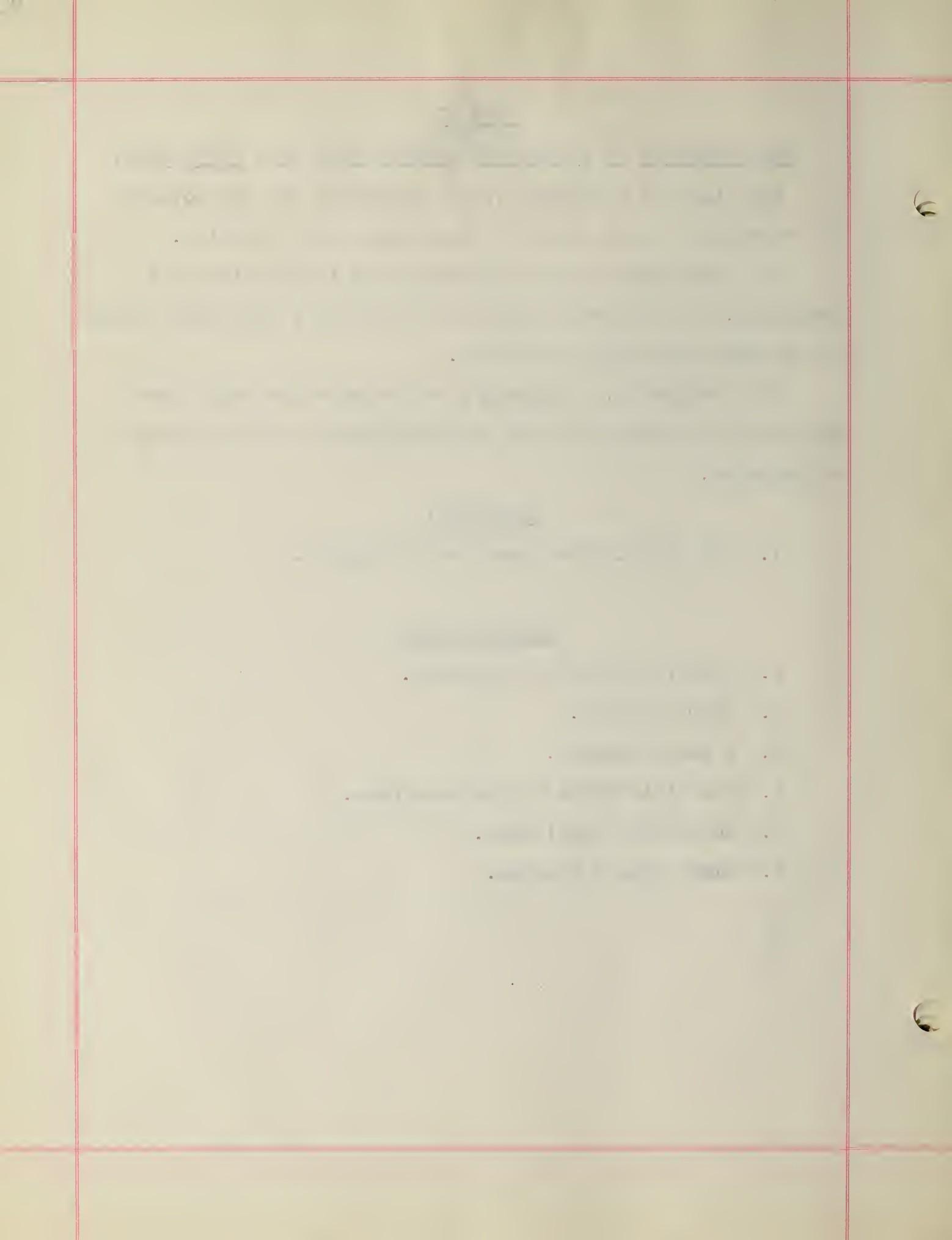
The photograph, on page 73, was taken while pupils were attempting to study with the unfavorableness of the balcony in a gymnasium.

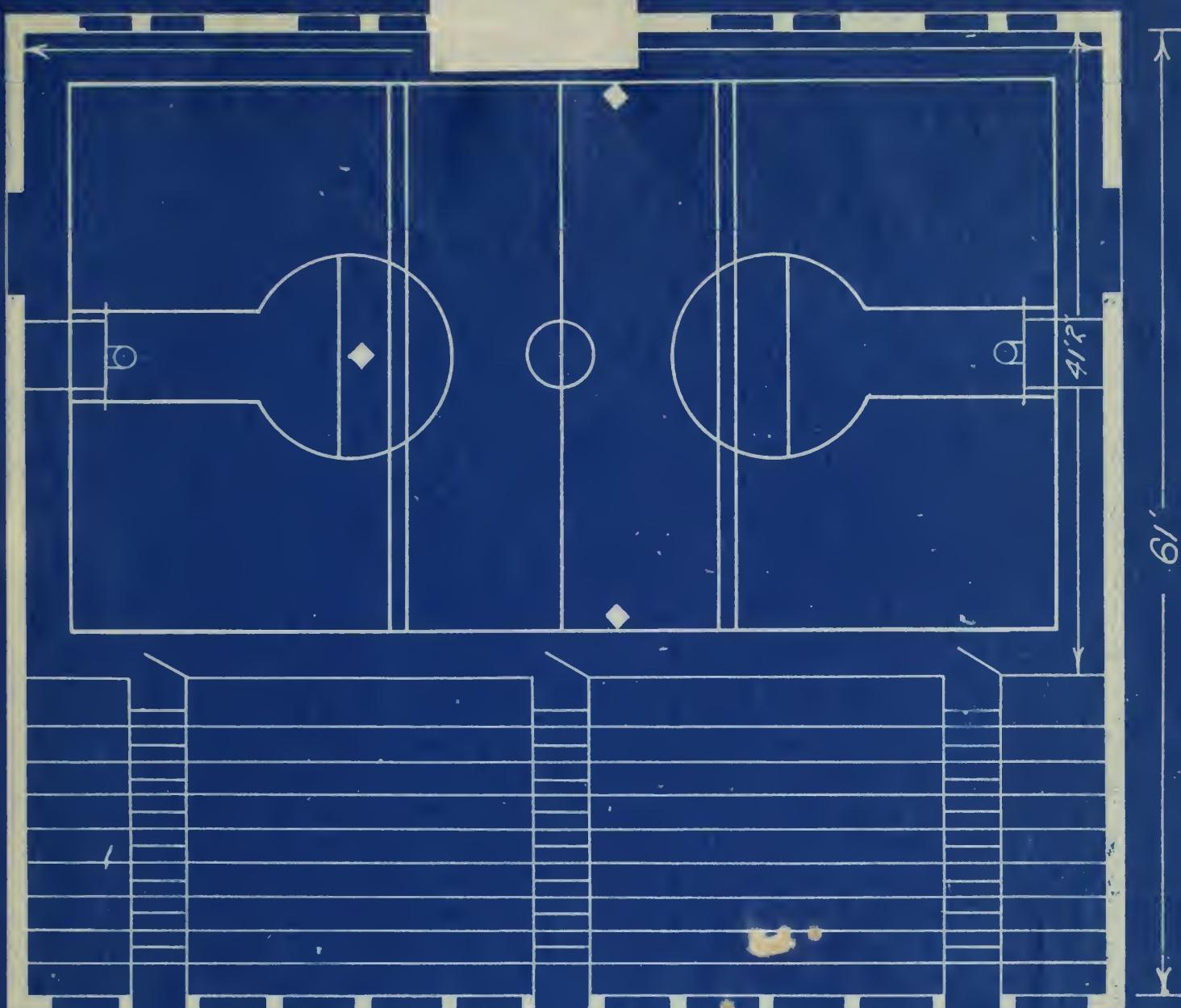
ADVANTAGE:

1. All pupils have some kind of station.

DISADVANTAGES:

1. The wrong kind of furniture.
2. Poor lighting.
3. A poor location.
4. The distraction of the main room.
5. No library facilities.
6. Discipline a problem.





TYPE NO. VI
Scale 1" = 10'

D

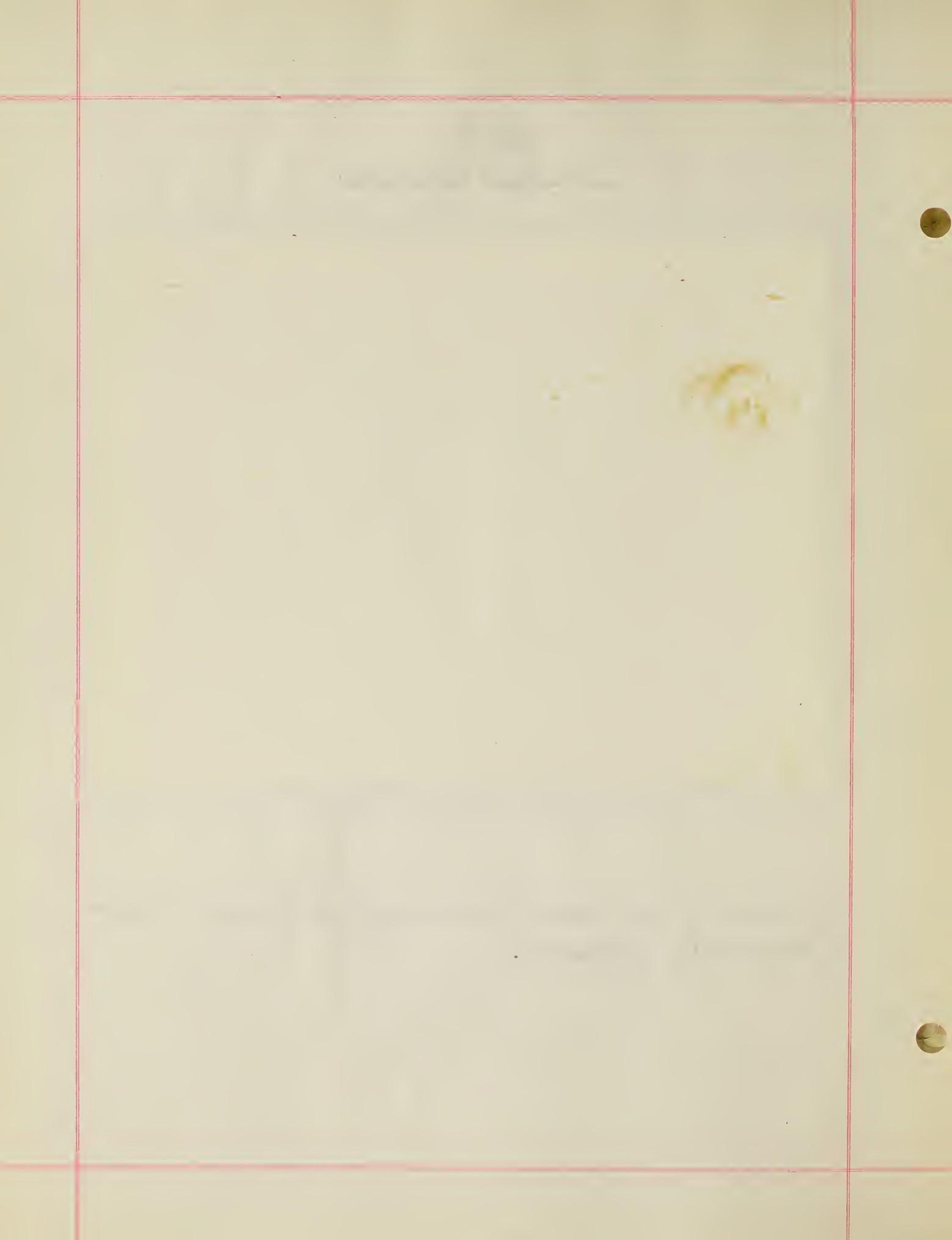


C

TYPE VI
THE BALCONY STUDY HALL.



This is a very unusual situation, and has nothing to offer in favor of its continuance.



TYPE VIITHE LIBRARY STUDY HALL

Very few high school plans of recent date are drawn without a library provision. These plans show this room on the main floor in most cases, and conveniently located to study halls, and all building conveniences.

School standards call for its size to accommodate 10% to 20% of the school enrollment and to allow 21 sq. ft. floor space instead of the usual 15 to 18 sq. ft. allowed in classrooms. 1

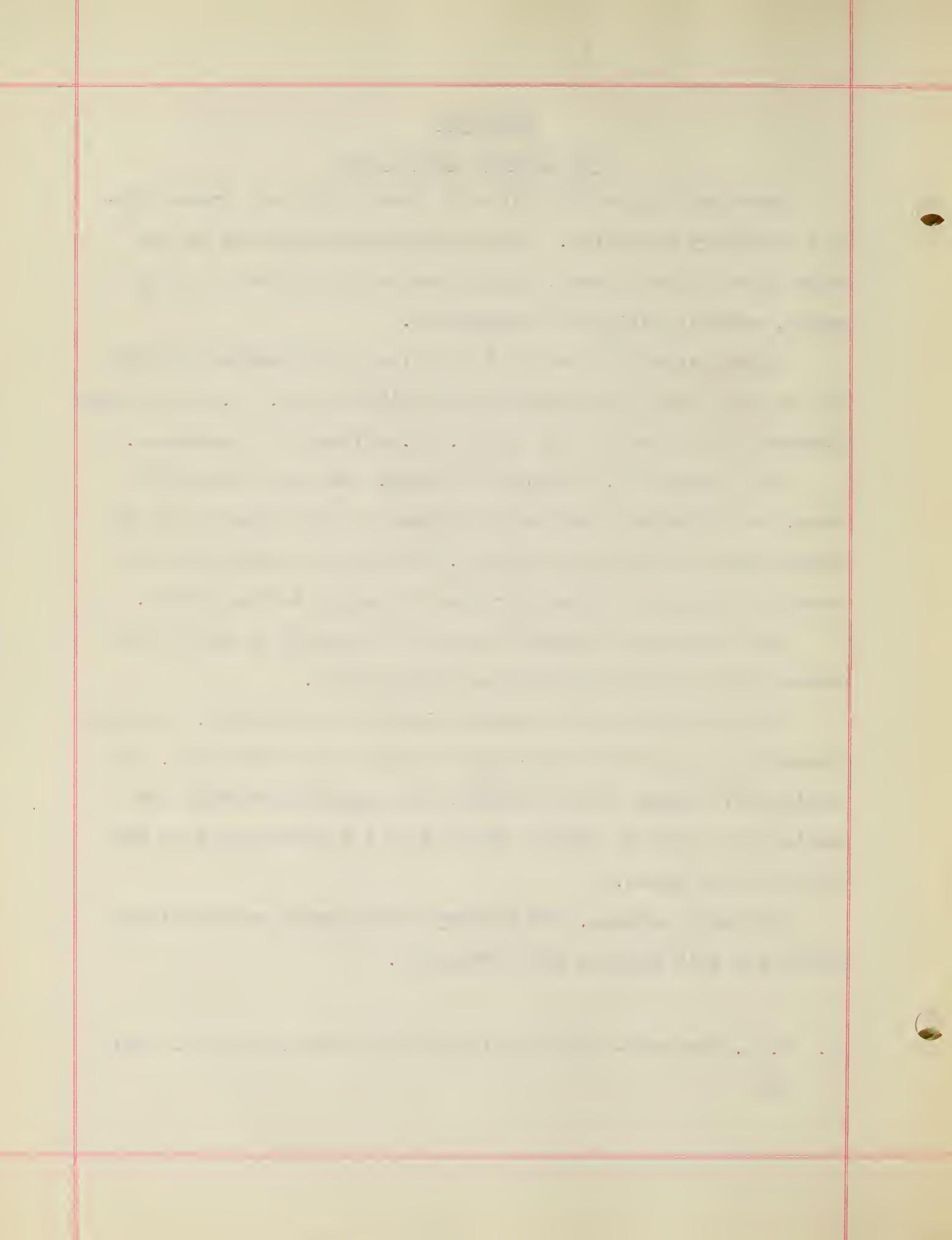
The library is, in many buildings, the most attractive room, and often more expense is given to this feature than in other rooms of the same building. Provision is made in this room for hanging the best pictures belonging to the school.

The floors are covered by cork or linoleum to avoid the noise that is always present in moving about.

Many libraries have electric lamps on each table, but more recent plans call for semi-direct lights over each table. If artificial lights are not needed, the same requirements are called for s in the regular class room (a window area of 20% of the floor space.)

In small schools, the library often serves as the study hall, and this plan is very favorable.

1. E. L. Morphet--School Building Utilization, page 47, Table VII



CHALLMAN'S QUESTIONNAIRE.

In 1924, Challman, Supervisor of Public Building Construction in Minnesota, conducted a survey over the United States through the agency of 300 principals and superintendents in some of the most prominent schools. His purpose was to find which of the three types met with most favor.

1. Combined study and recitation rooms so as to give every pupil a desk.
2. Study rooms large enough to accommodate all pupils not reciting in the study-recitation rooms.
3. Library facilities for all study pupils.

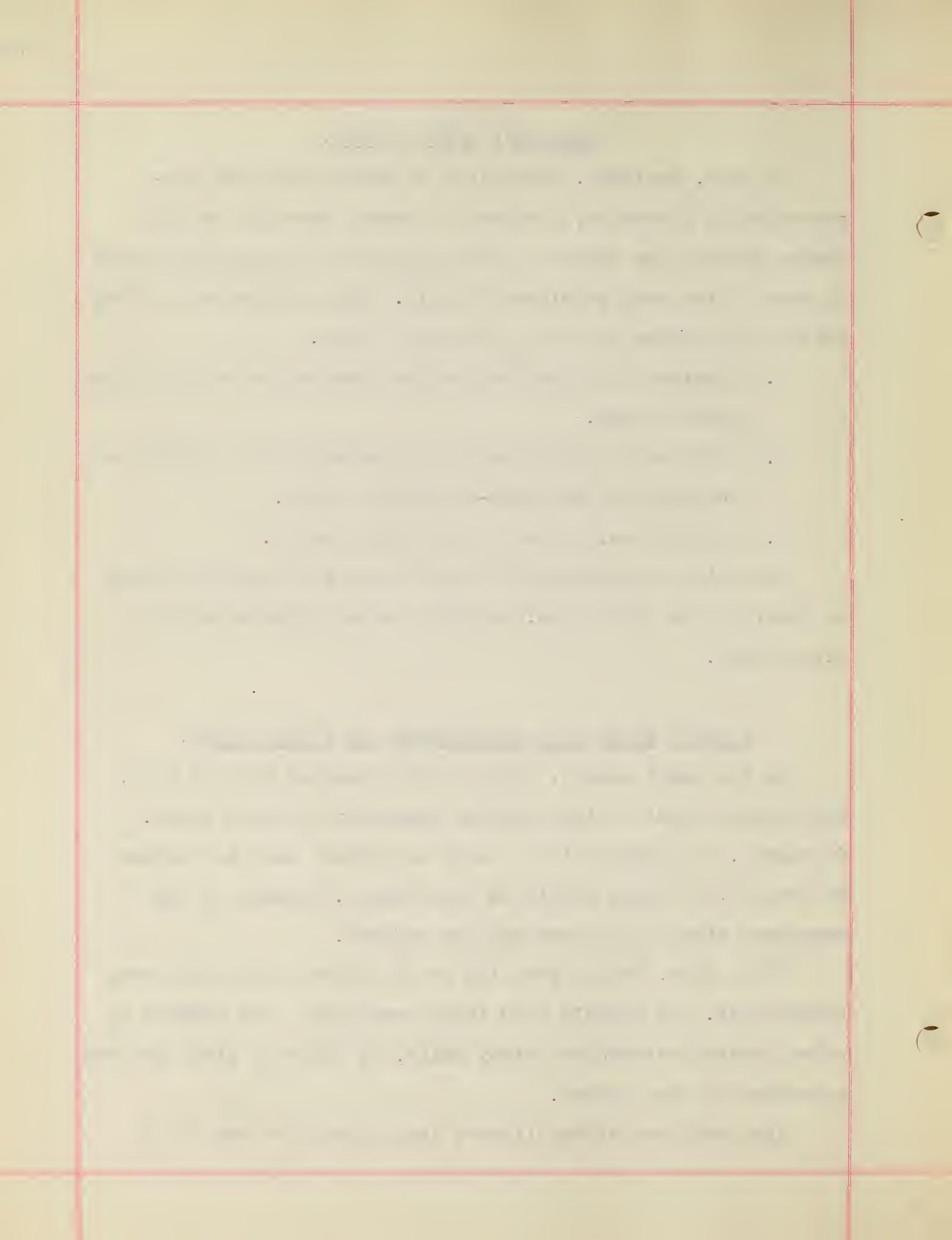
The opinions expressed in the returns were overwhelmingly in favor of the third plan, and this seems to be in general favor today.

LIBRARY PLANS THAT ACCOMMODATE ALL STUDY PUPILS.

To the small school, this is an economical type of room, and combines most of the features necessary for good study. Of course, the school with a large enrollment must not depend on housing its study people in this manner, because of the necessary size of the room and the expense.

This, then, brings the plan of the library with adjoining study halls. In schools with large enrollment, the library is often located between two study halls, in order to give them the advantage of the library.

The furniture of the library lends itself to use for



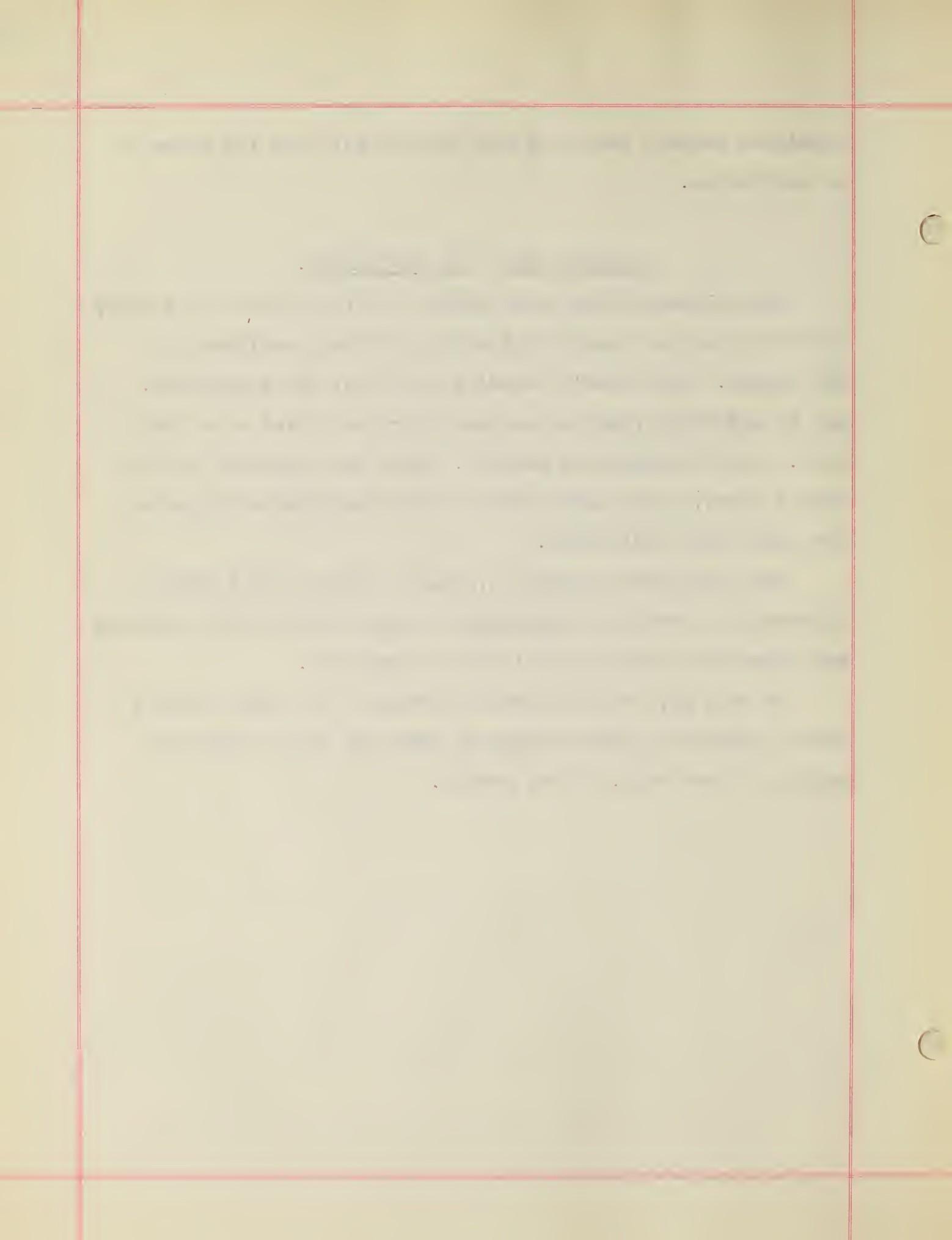
committee meetings and to groups that do not need the space of an auditorium.

LIBRARY PLANS AND PHOTOGRAPH.

The following blue print shows the floor plan of a library built for use in a small high school with an enrollment of 250 pupils. This room's capacity is 10% of the enrollment, and an adjoining room on the same corridor serves as a study hall. The photograph on page 79, shows the equipment of the same library, which meets most of the requirements suggested for good study facilities.

The photograph on page 80, shows a Detroit High School library plan, which is duplicated on each floor of the building and gives each study pupil library advantages.

On page 81, the photograph represents the large library whose capacity is great enough to care for all of the study pupils, in one room, at any period.



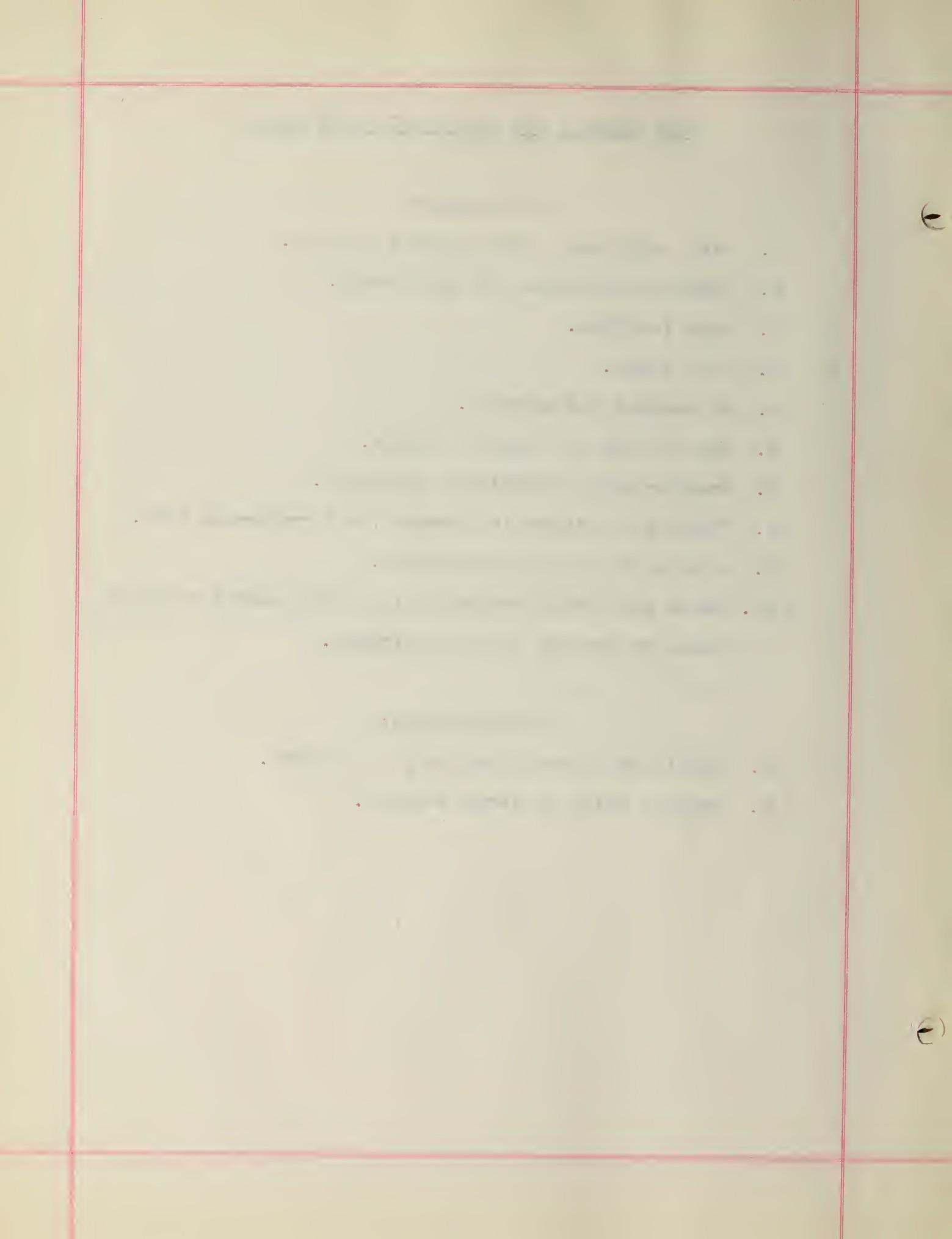
THE LIBRARY AND ADJOINING STUDY HALL.

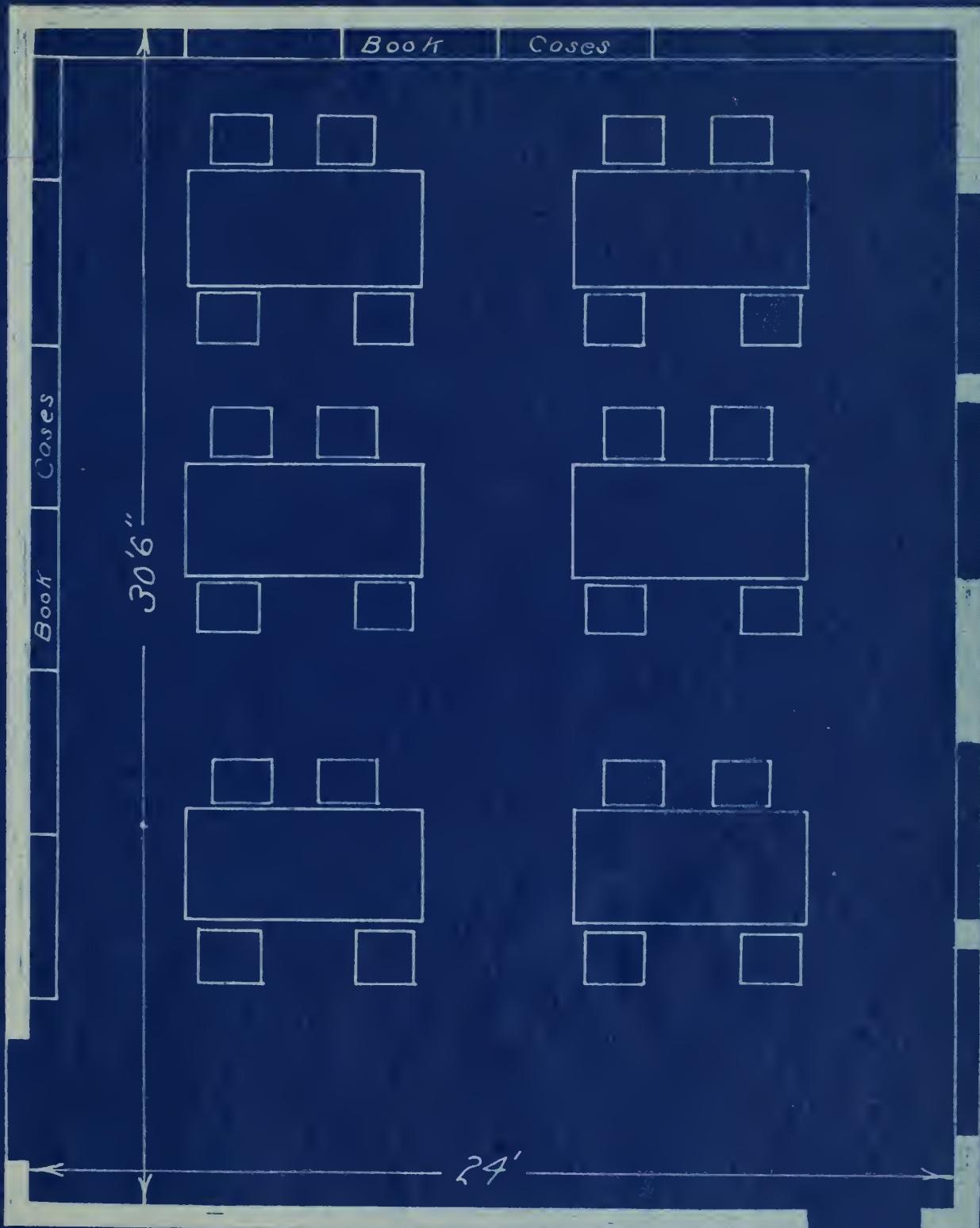
Advantages:

1. Each pupil has a satisfactory station.
2. Library advantages for each pupil.
3. Good location.
4. Good light.
5. No unusual disturbance.
6. May be used for class meetings.
7. Teacher who is competent in charge.
8. Permits of better assignments, and reference work.
9. A place to study after school.
10. Takes some study responsibility from poorly equipped homes on account of its equipment.

Disadvantages:

1. Pupils must move from study to library.
2. Unusual noise in large schools.





TYPE NO. VII

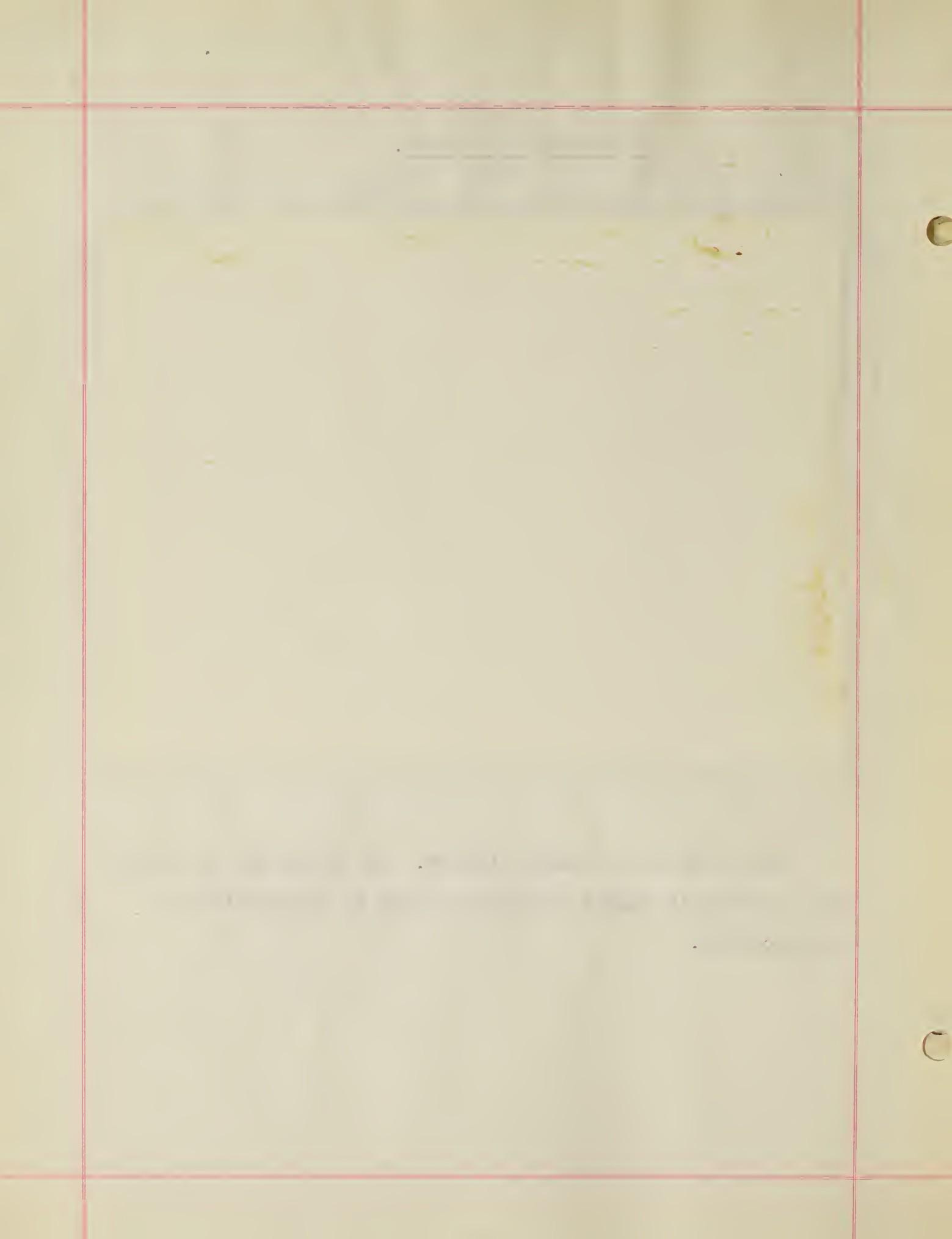
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A LIBRARY STUDY HALL.



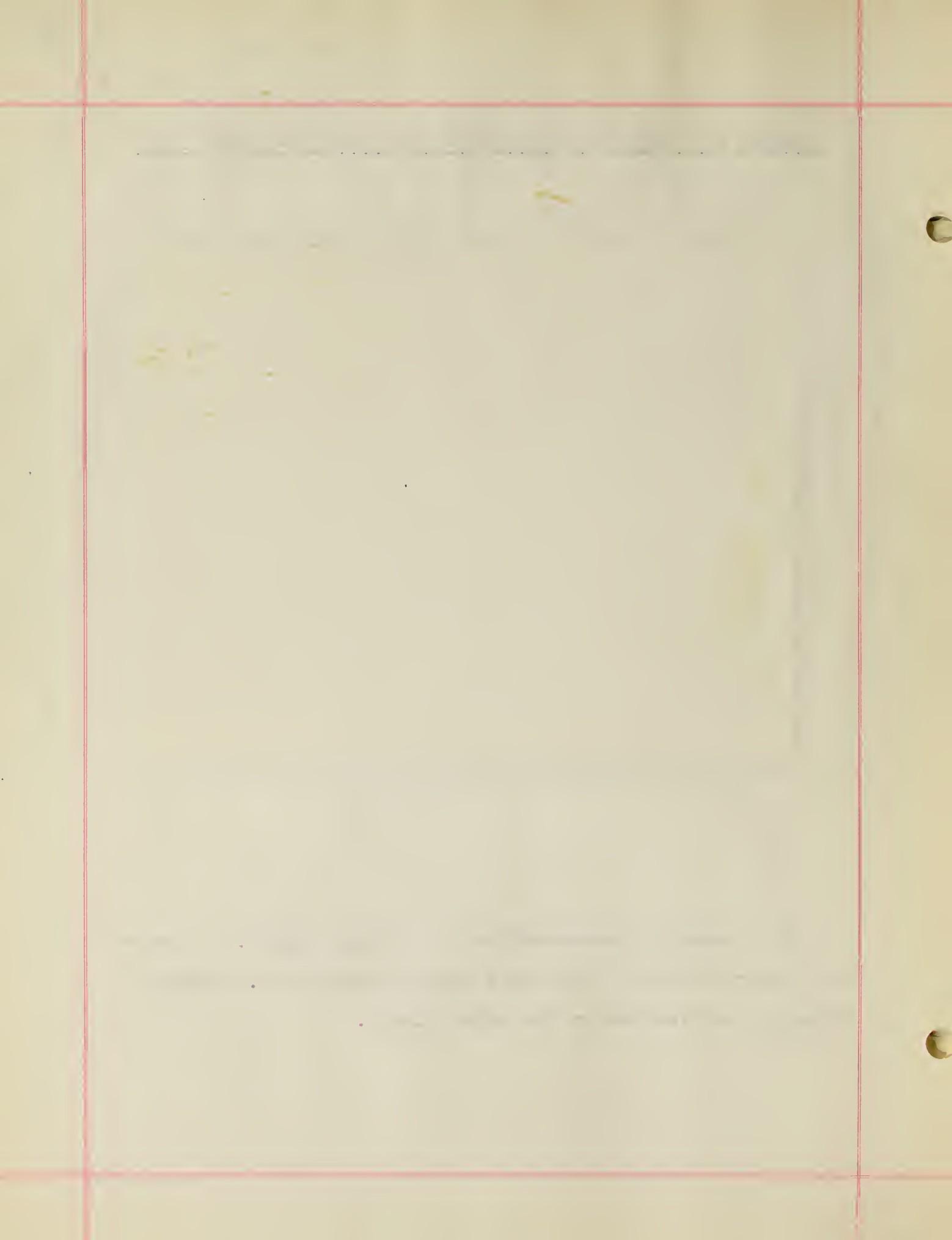
One section of a small library. The study hall is across the corridor in vacant recitation rooms where overflow is accommodated.



LIBRARY STUDY ROOM IN SCHOOL HAVING LIBRARY ON EACH FLOOR



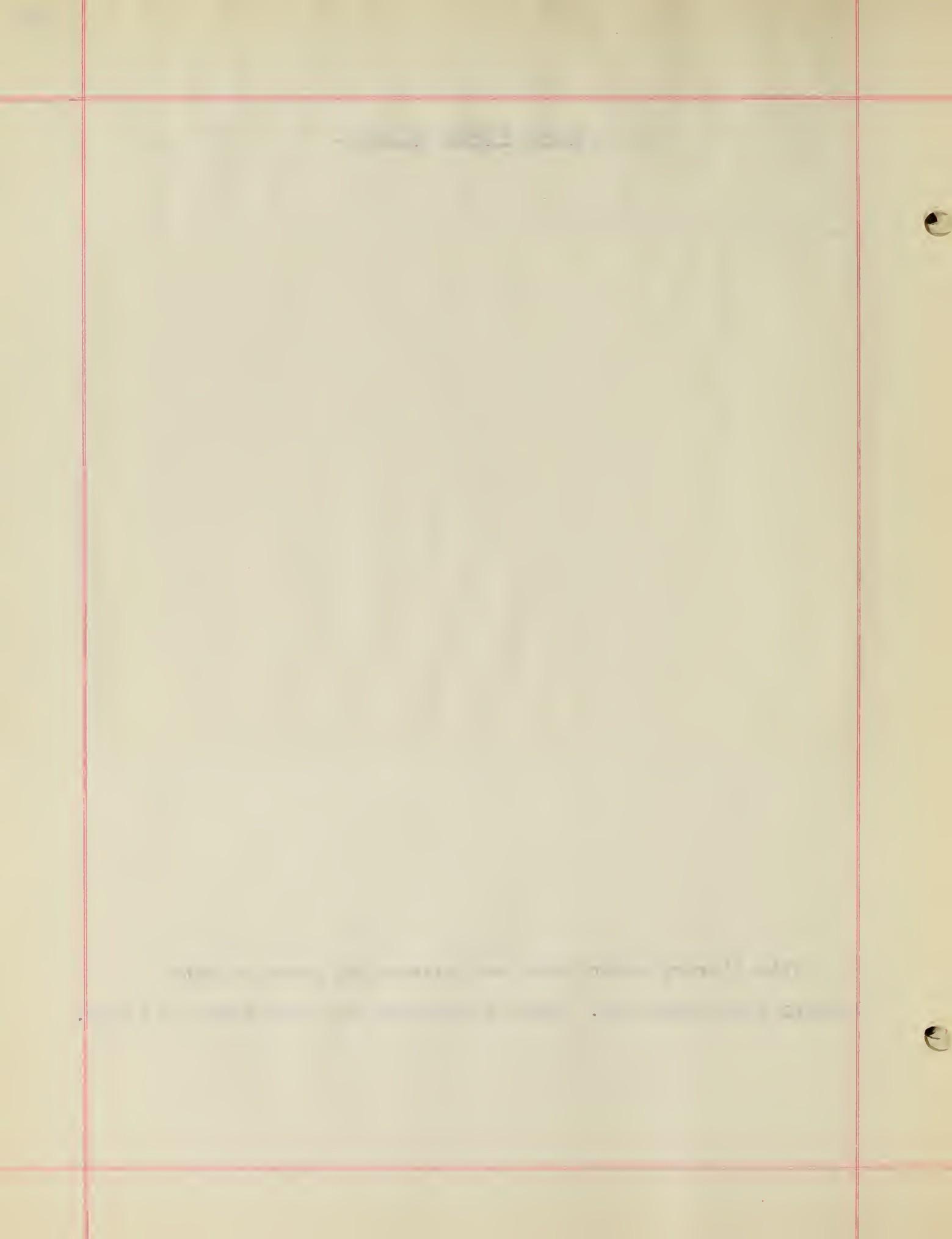
This room has accommodations for eighty pupils. It makes the library available for study pupils each period. Similar libraries are located on two other floors.



A LARGE SCHOOL LIBRARY.



This library shown above was planned to serve as both library and study room. These conditions are excellent for study.



PART III
SUMMARY AND CONCLUSION.

There is scarcely any subject in the educational field about which some data cannot be secured. But from a thorough search in several libraries, both public and college, I have found that the amount of material on the subject of study halls is very much limited.

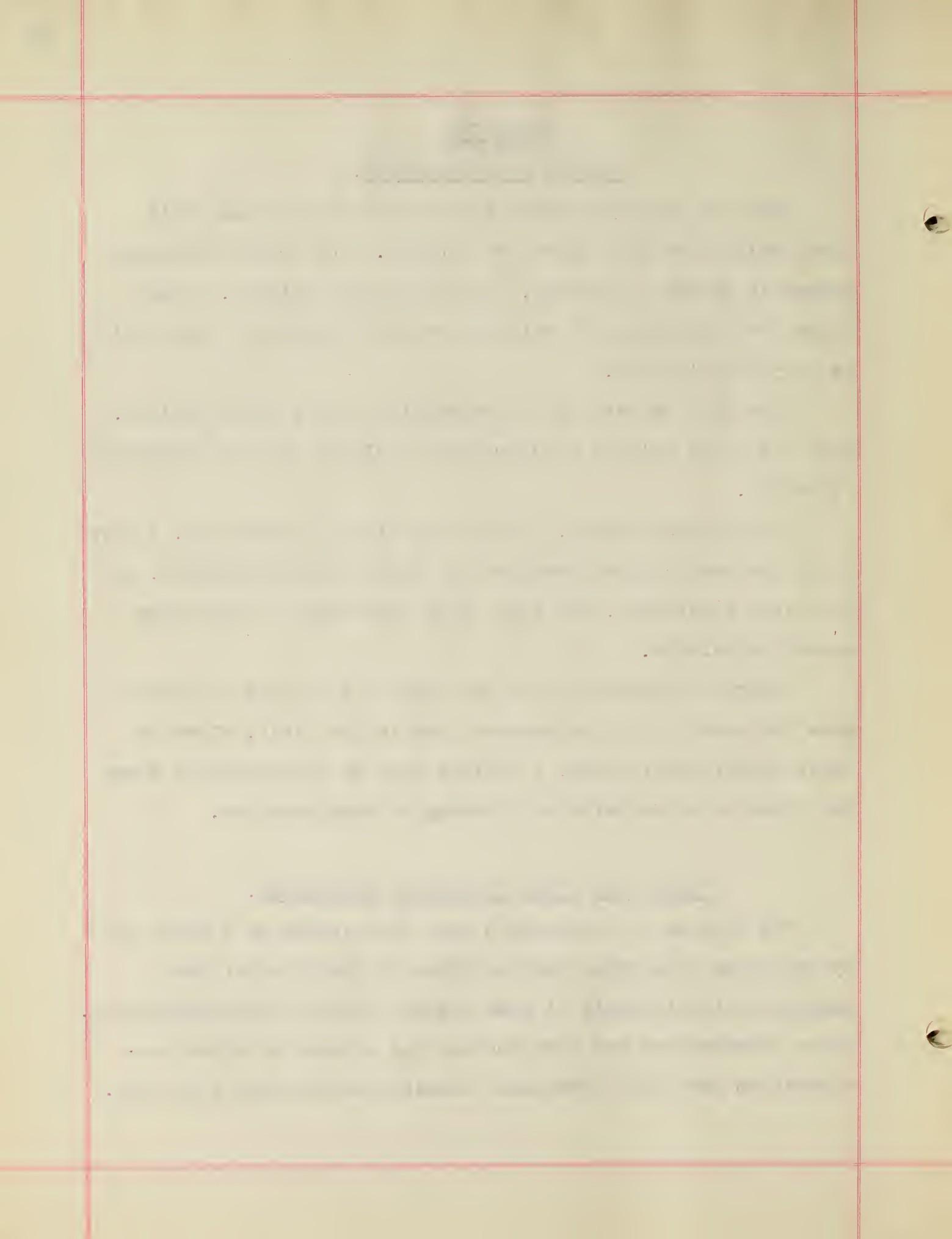
Most written material is primarily on some other subject, with the study hall as a subordinate division and not considered in detail.

By the questionnaire, and also by visits I have made, I have found the most common practices for study hall arrangement, and also from interviews, the study type preference of many high school principals.

Basing my supposition on the premise that these opinions were the result of experiences of men in the field, aided by their professional study, I believe that my investigation shows the types of study halls most worthy of consideration.

TYPES THAT FIRST INSPECTION ELIMINATES.

The sources of information that have served as a basis for my decisions concerning various types of study halls, have enabled me to eliminate at once several types from consideration. These eliminations are made because the situations under consideration lack the fundamental necessities required for study.



The disadvantages of the following,

Type I The Recitation Room with Pupils Studying in Rear Seats. See pages 49 and 50

Type III The Auditorium Study Hall, Pages 55-58

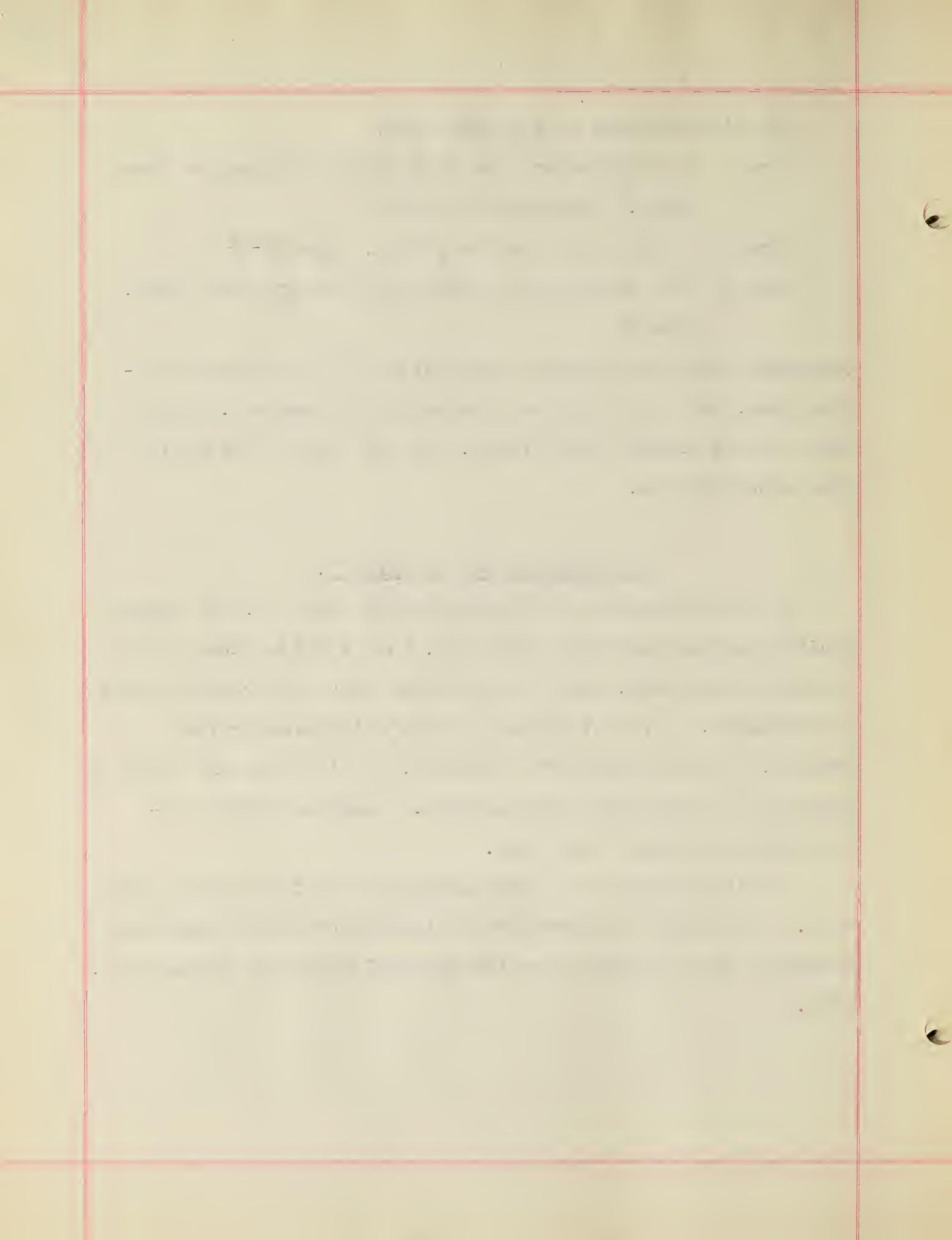
Type VI The Gymnasium or Auditorium Balcony Study Hall, Page 72

outnumber their advantages as expressed by all sources of information, and they exist as a temporary arrangement, rather than as well planned study rooms, and may well be eliminated from consideration.

THE POSSIBLE USE OF TYPE II.

Of these remaining for consideration, Type II, The Vacant Recitation Room has many advantages, but is seldom used as the original study hall, and its use begins when overcrowding makes it necessary. For this purpose and as a temporary relief measure, it may be favorably regarded, but its size and location eliminate it from more consideration. Opinions differ considerably concerning this room.

I believe that it is very undesirable as the regular study room. This belief is borne out by the report of the Committee on School House Planning for the National Education Association, 1925.

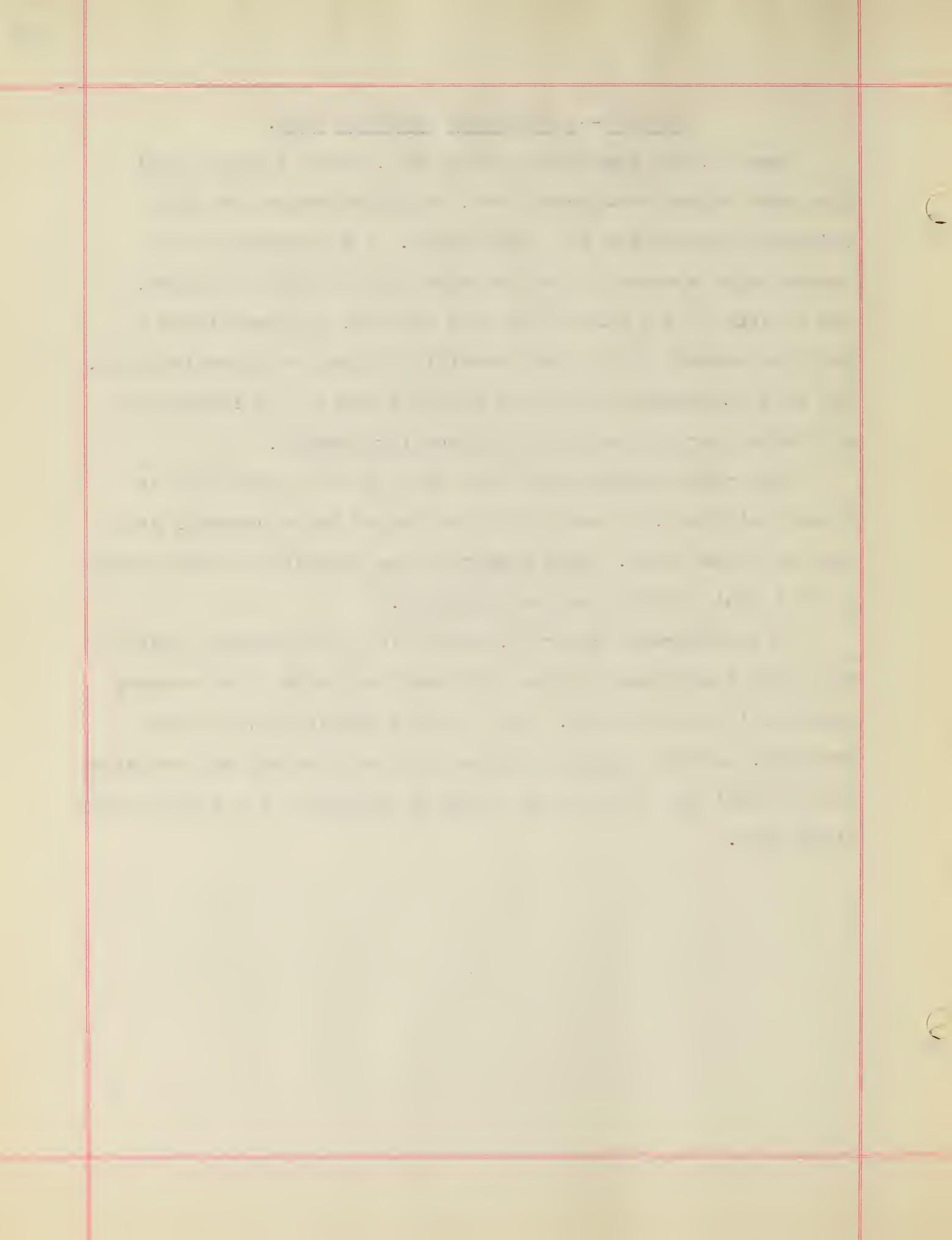


TYPE IV--A FAVORABLY REGARDED PLAN.

Type IV, The Lunch Room Study Hall, while a more recent plan than others considered here, has more advantages than objections stated for its continuance. Its successful use depends upon whether it was intended for the double purpose, and in case it was built with that in view, it constitutes a building economy that is not possible in many room combinations. The most noticeable difficulty with its use is the inadequacy of library facilities that are generally present.

With cities making plans for this type of study hall in future buildings, we can list it as one of the successful and well utilized rooms. Much remains to be done in its development as it is put to trial in new buildings.

It is favorably regarded, and it is quite probable that it will have a wide usage during the next few years as an economy measure, if for no other. With library facilities, properly arranged, and the original plan of the building making provision for the dual use of the room it may be regarded as a satisfactory study room.



TYPE V--THE MAIN ROOM OR SESSION ROOM

This room was one of the first rooms used in high schools for any kind of school work, and has undergone many changes and uses.

It is used today in many schools, and is favorably regarded by principals of small schools, and also has the endorsement of the Committee on School House Planning of the National Education Association in 1925.

The many objections when used in a large school have limited its use to schools of less than one hundred pupils.

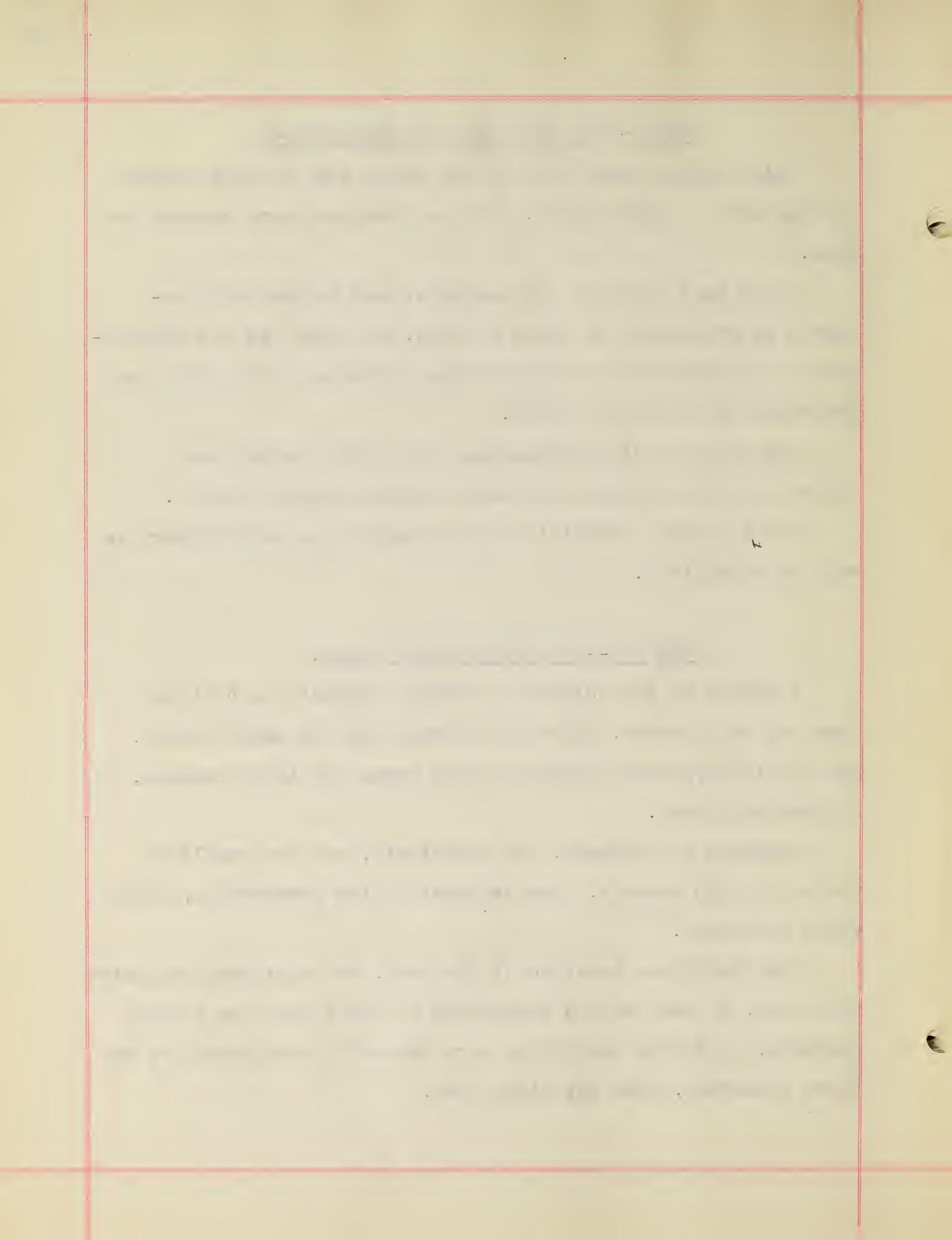
For the small school it may be regarded as satisfactory as well as economical.

TYPE VII--THE LIBRARY STUDY HALL.

A survey of the objections charged against the various types of study rooms, shows the library for the small school, and the library with adjoining study rooms for large schools, in greatest favor.

Opinions of teachers, and principals, and the result of visits to high schools, give evidence of the correctness of the above statement.

The furniture, location of the room, and equipment necessary for study, as well as the atmosphere of quiet that the library suggests, give this study type more favorable consideration, by those concerned, than any other plan.



AN ATTEMPT TO DETERMINE STUDY HALL VALUES.

Following, on page 87, is a score card for high school study halls with seven types compared.

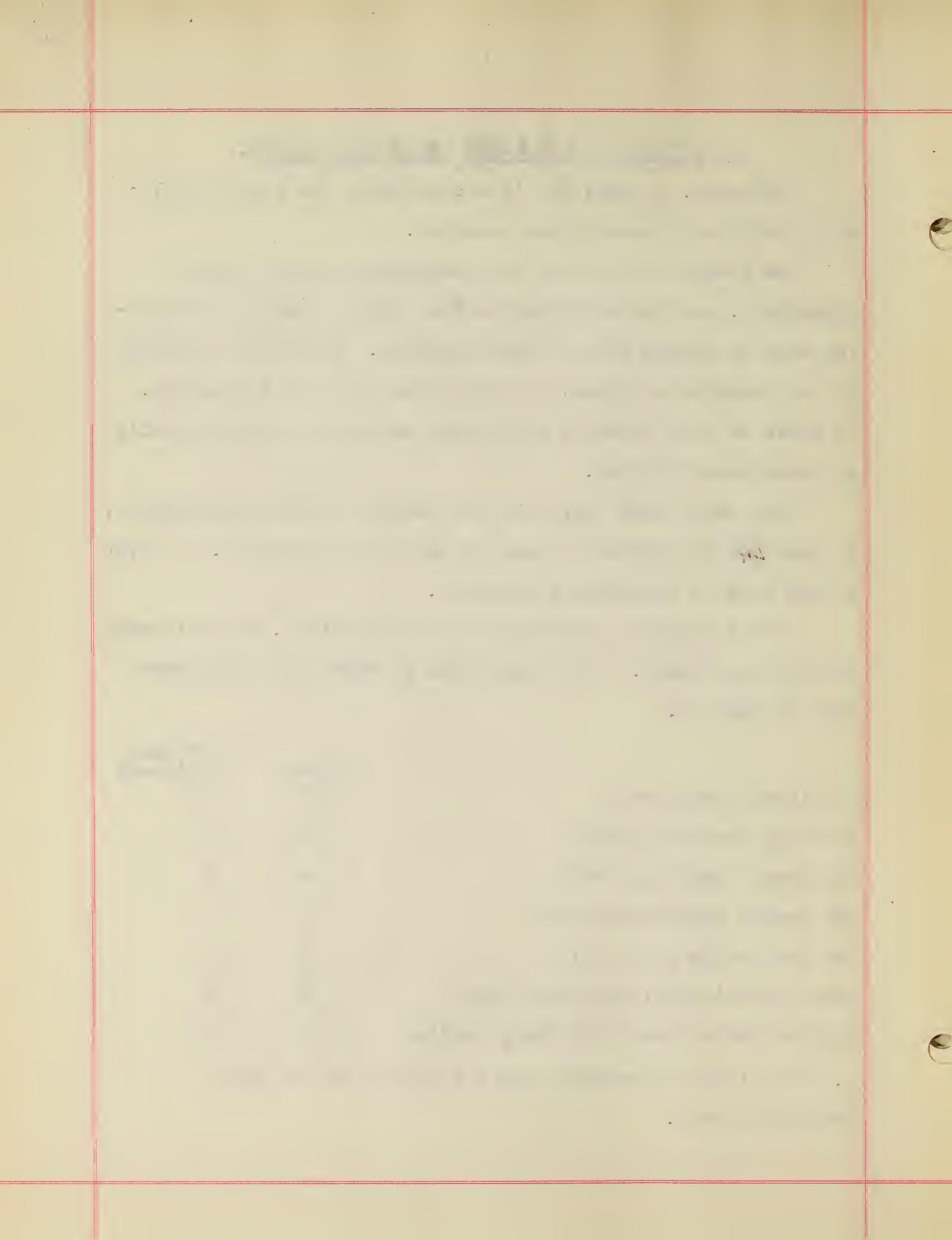
The items on this card were suggested by high school principals, and the weighting is the average result of weighting made by thirty school administrators. While this decision is not regarded as final, or even given to set up a standard, it shows to some extent a comparison and rating of study halls as experience dictates.

This score card bears out the results of the questionnaire, on page 44, and serves to make opinions more reliable. 1 Even it may help in verifying statements.

From a possible perfect score of 115 points, the following comparison is made. This conclusion is taken from the score card on page 87.

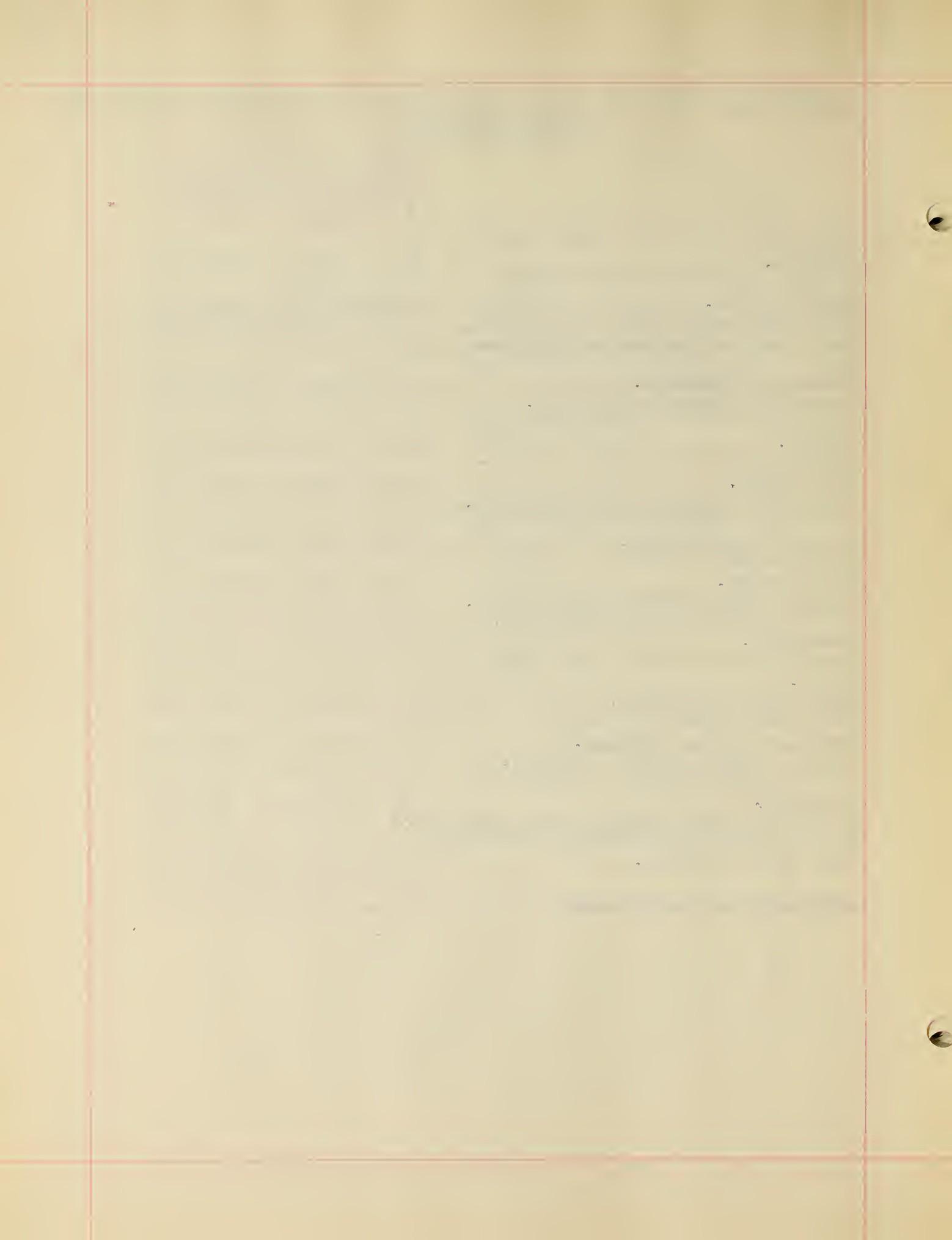
	Points	Per cent Efficient
The Library Study Hall	111	96%
The Main Room Study Hall	97	84
The Lunch Room Study Hall	88	77
The Vacant Recitation Room	50	51
The Auditorium Study Hall	50	43
The Auditorium Balcony Study Hall	30	26
The Recitation Room with Study Pupils	39	33

1. This is true excepting for the report on the vacant Recitation Room.



A SCORE CARD FOR STUDY HALL VALUES BASED ON HIGH SCHOOL PRINCIPALS' RECOMMENDATIONS.

	Assigned Values:	Study Pupils in Recitation Room.	Vacant Recitation Room.	Auditorium Study.	Lunch Room.	Study Hall.	Main Room Study in Small Schools.	Gymnasium Balcony.	Library Study Hall.
Each pupil must have satisfactory station.	10	8	8	0	8	10	0	10	
Natural and Artificial lighting must be good.	10	10	10	0	8	4	0	10	
Must give easy access to library.	8	0	0	0	4	8	0	10	
Must cause a minimum of passing.	8	0	0	0	8	8	0	8	
Must be convenient to toilets and drinking fountains.	8	5	5	8	8	8	8	8	
Seats for 20% of enrollment.	5	0	0	8	5	5	8	5	
A teacher suited to this work in charge.	10	5	0	5	10	10	0	10	
Class Activities should not disturb study.	8	0	8	4	8	4	0	8	
No pupils reciting in study hall.	8	0	8	8	8	8	8	8	
Study hall should give advantages of his room at home.	2	0	2	0	2	2	0	0	
Entrance should not be through other rooms.	5	5	5	5	5	5	5	5	
Should permit after school study.	5	0	0	0	0	5	0	5	
Bulletin board and blackboard necessary.	3	2	2	0	0	3	0	3	
Standard requirements for color of walls.	3	3	3	0	3	3	0	3	
Acceptable furniture.	8	6	6	0	5	8	0	8	
Serve as a place for patrons to hold meetings in the evening.	3	0	0	3	3	3	0	3	
Should serve a double purpose.	3	0	0	3	3	0	3	0	
Should make possible a larger enrollment.	3	3	3	3	0	0	3	0	
Eliminate home rooms in small schools.	3	0	0	3	0	3	3	0	
Should take some study responsibilities from the home.	2	0	0	0	0	0	0	4	
Total score for each type	16	39	57	50	88	97	30	111	



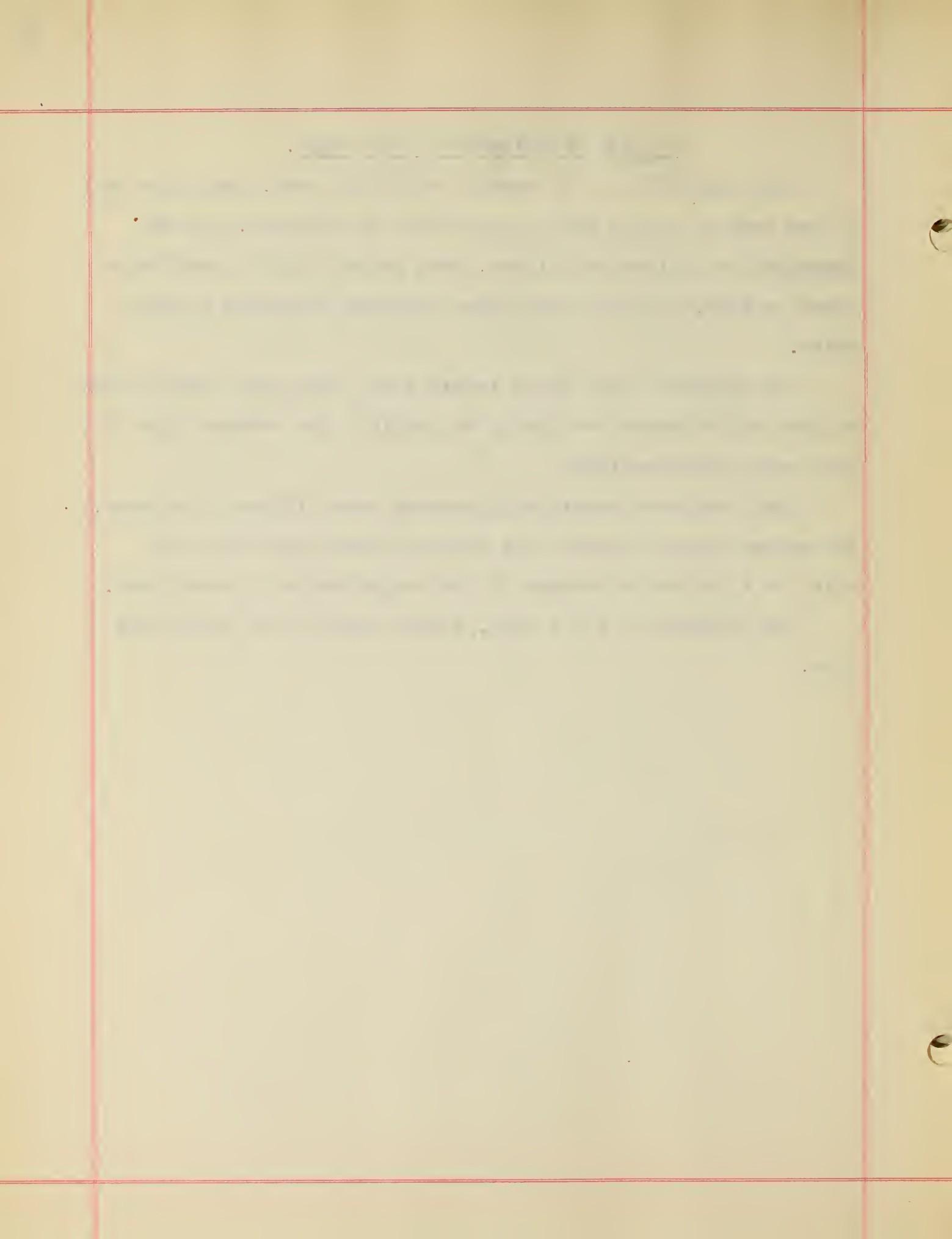
SCORING THE TYPES OF STUDY HALLS.

The study hall in the vacant recitation room, the study hall in the rear of a room with a recitation in progress, and the gymnasium or auditorium balcony, were scored with no particular rooms in mind, as these rooms offer the same situation in most cases.

The remaining four types scored were particular school rooms visited and represent as nearly as possible the average type of room under consideration.

Each room must necessarily possess some different features, and unless one has visited the room he cannot give the full value to a decision reached by the comparison on a score card.

The decision is for a type, rather than for an individual room.



The previous page shows the rating of the various types of study rooms, as suggested by this discussion. By eliminating the last named three, a choice can be made in agreement with any particular school, and its needs.

The size of the school, taken with the economy necessary may limit the choice of rooms to be used but even with this limitation, the choice is broad enough to leave a desirable plan.

Study hall standards can be realized in most schools if room arrangement is planned and necessary equipment changes made.

The statements of this discussion, based in part on visits to fifty-one high schools, at least show general trends if not established standards.

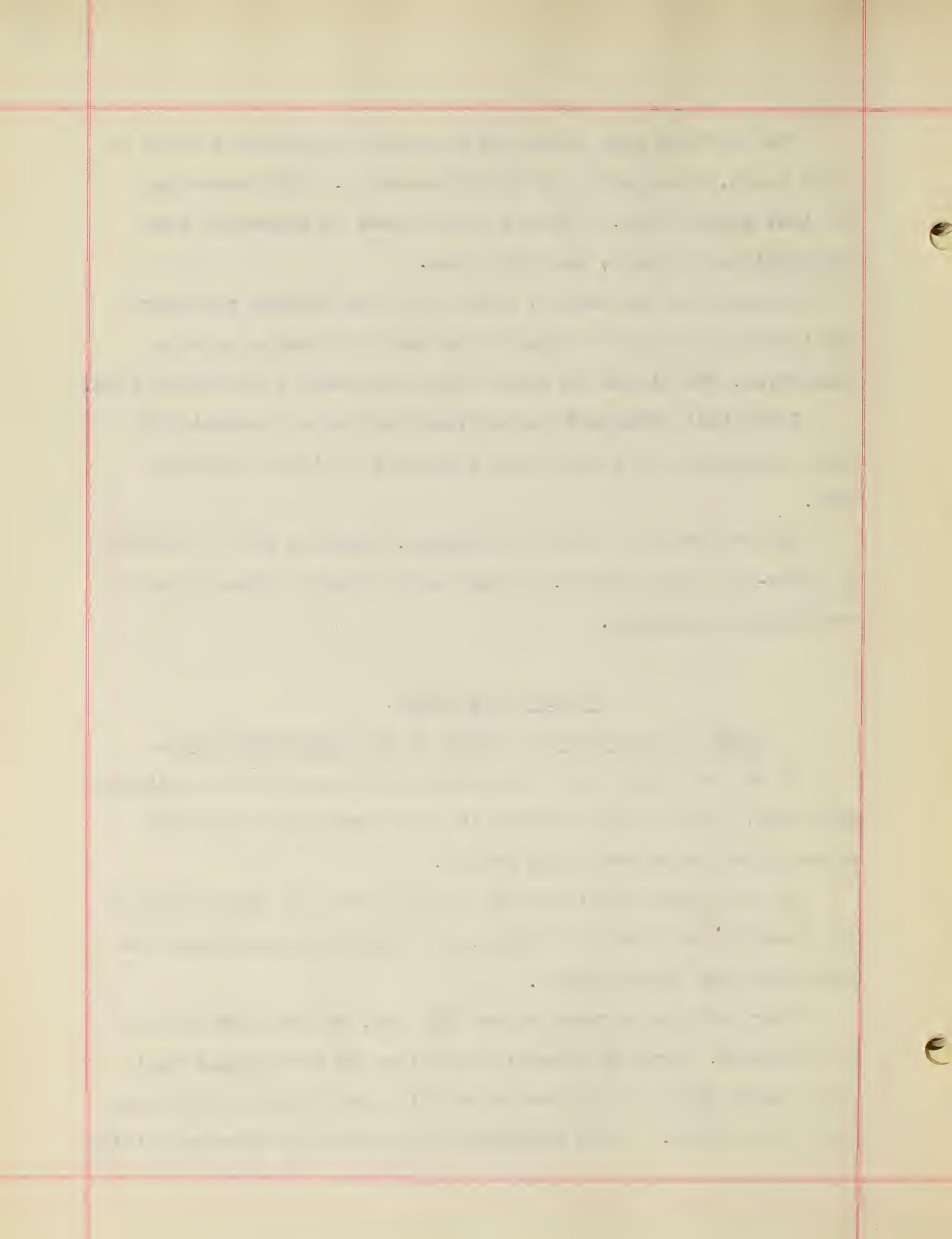
MY PLAN FOR STUDY.

BASED ON INFORMATION GAINED BY THE FOREGOING STUDY.

In my own school our overcrowded condition will be relieved next year, by using three rooms in a new building across the street from the present high school.

In our present building all school rooms are grouped about the gymnasium on the first floor, and around the auditorium on the second and third floors.

There are three rooms across the end, on the east side of the building. From my investigation I am of the opinion that these rooms which are on the second floor offer good conditions for a study hall. It is connected with the front room by folding



doors. The rear room is connected by a single door to the middle room.

These three rooms each have a pupil station capacity of forty.

Our present enrollment is six hundred, and with extra home rooms provided in a near-by building, I will be free to use the above named three rooms for study.

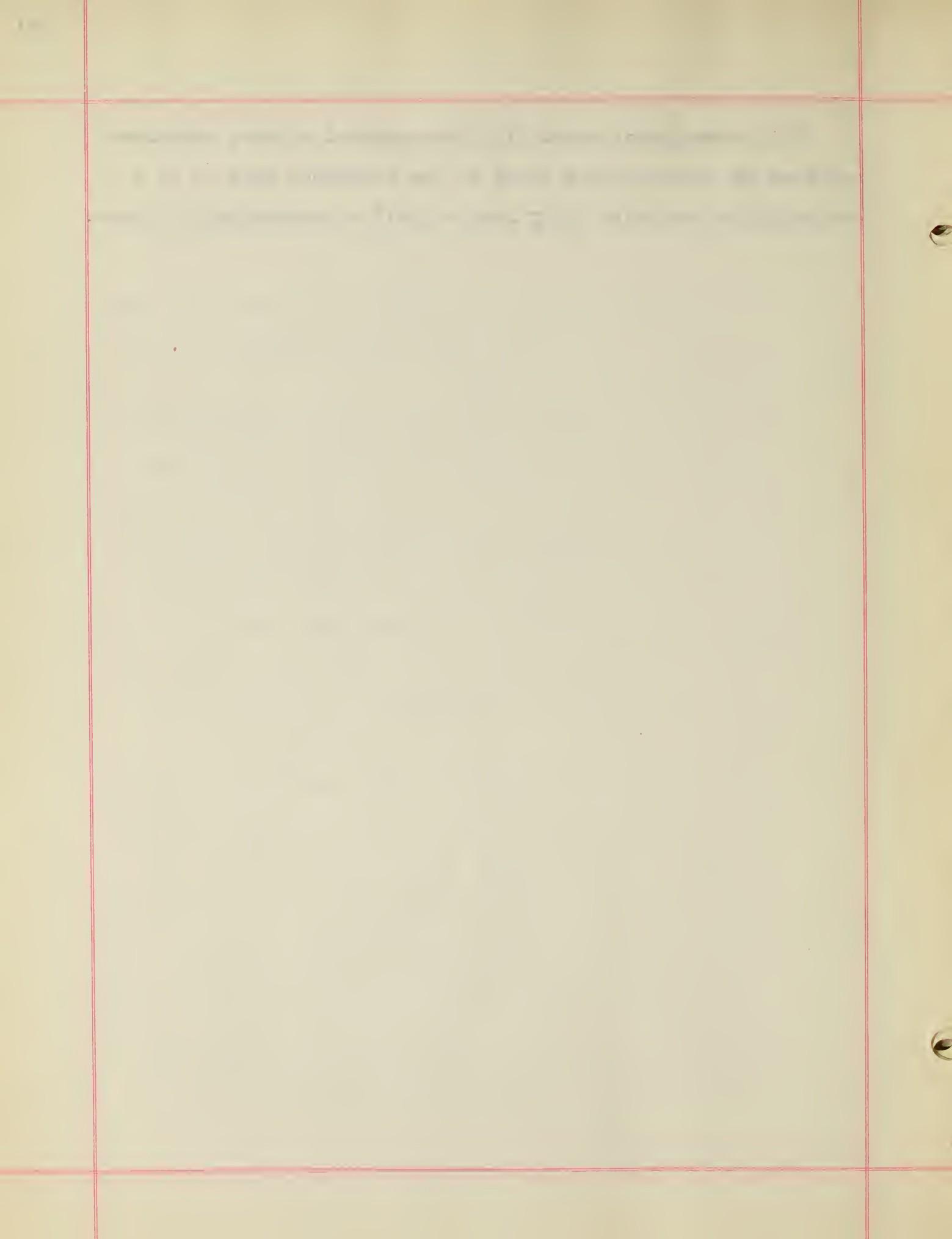
Their capacity is 20% of the enrollement or 120 pupils. On four days of the week when physical training classes are being held and less study space is needed, one room can be used for classes. This arrangement will necessitate the students in one room passing only through one door to reach the library. The folding doors will make the two front rooms into one library room. The plan will call for a librarian and one teacher when all rooms are in use and only the librarian on other days.

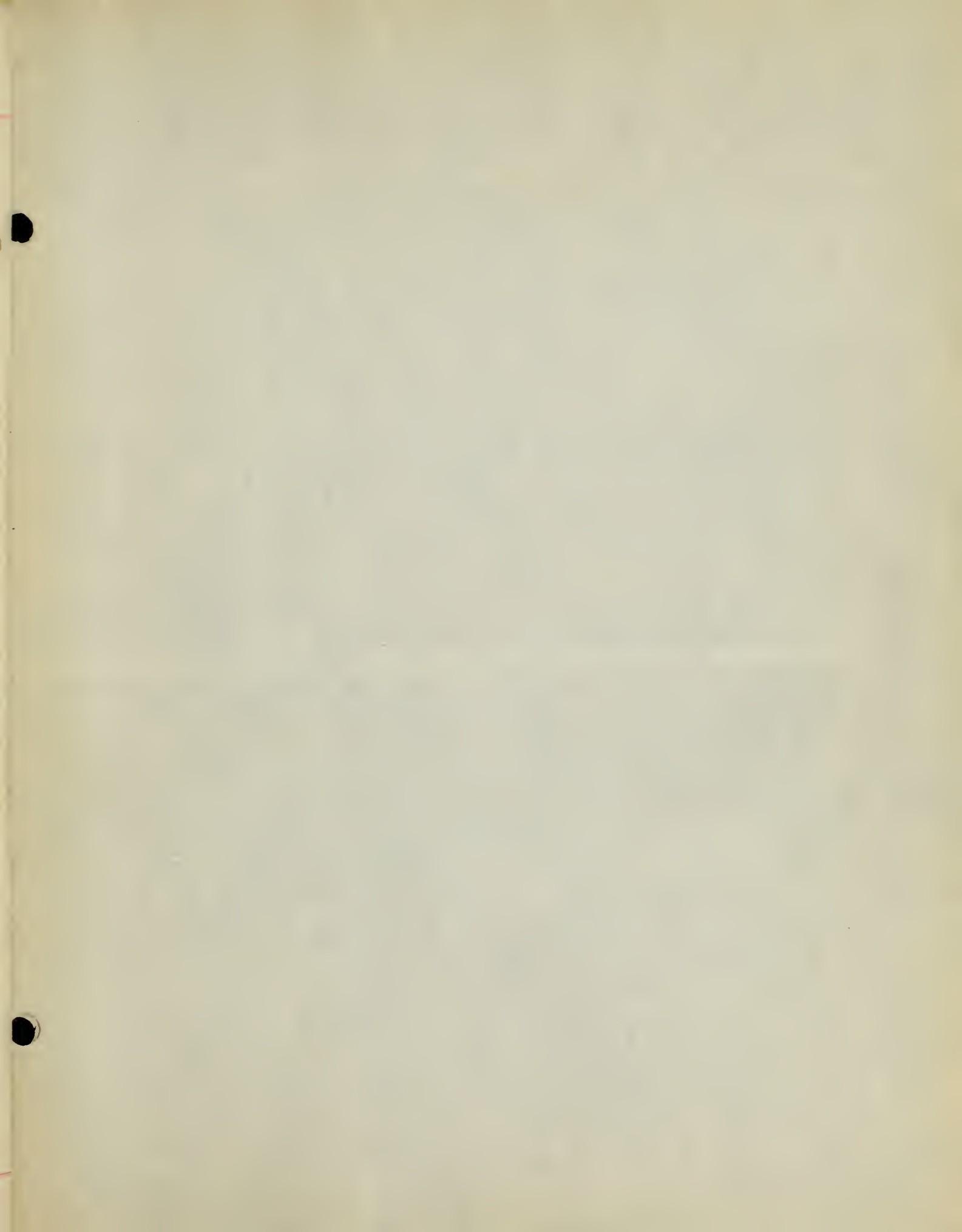
In each room the window area is about on-fifth of the floor space and the windows are set about $6\frac{1}{2}$ feet from the front wall.

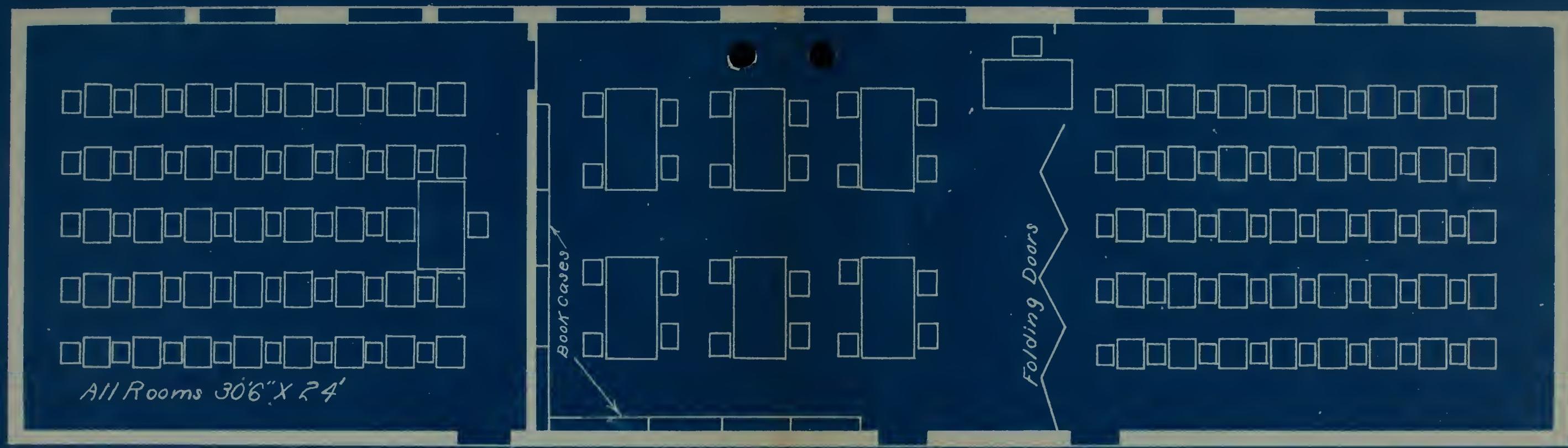
By moving six library tables from an English class room to the middle room, and by placing book cases across the front side, I shall have a good working equipment for a library with a capacity of 40 pupils. The two end rooms will be seated with stationery desks.

Following, on page 92, is a blue print of the situation of these rooms with the furniture and arrangement that I propose for next year.

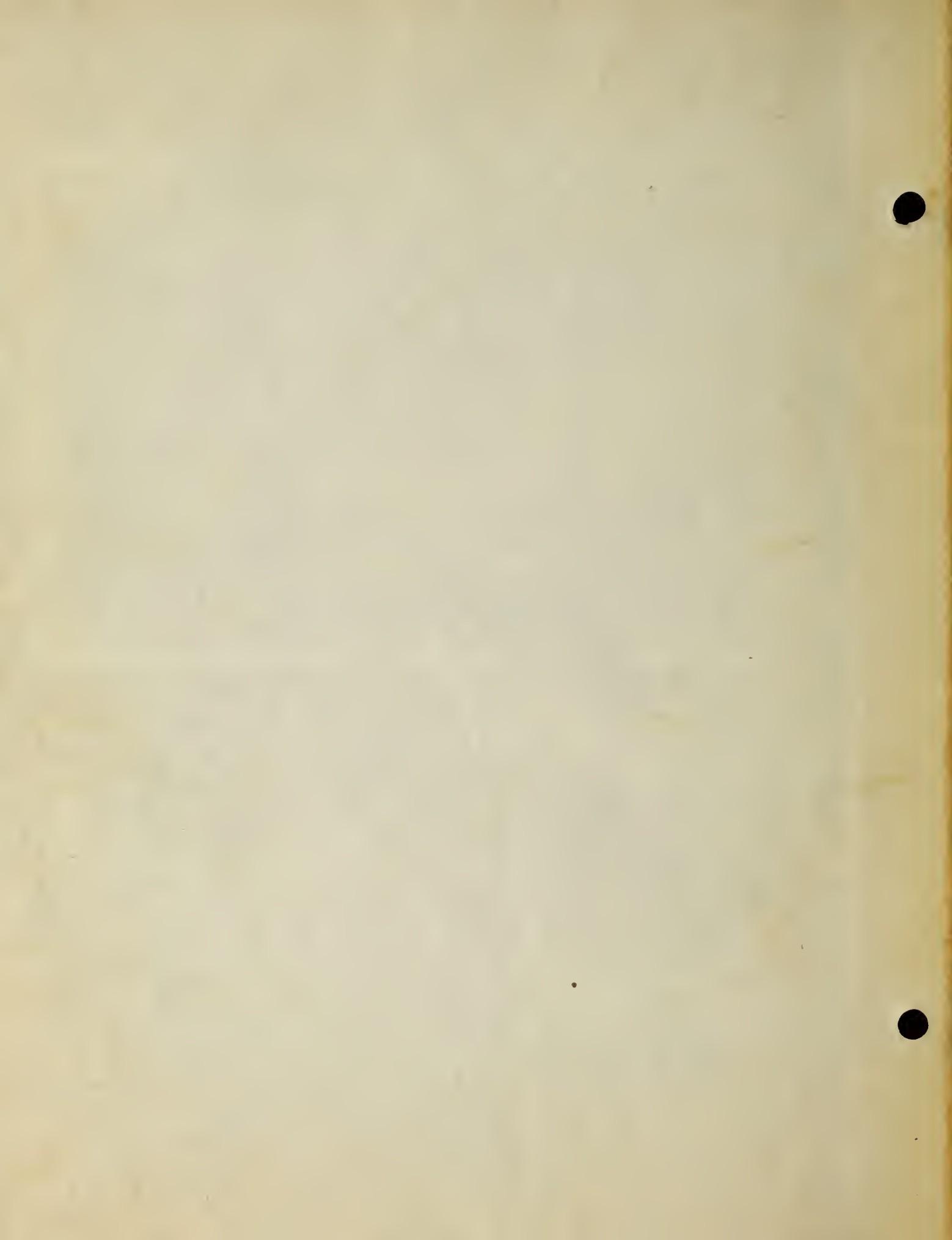
This arrangement meets with the approval of many schoolmen, and from my investigation gives me the assurance that it is a desirable and workable study room as well as economical of space.





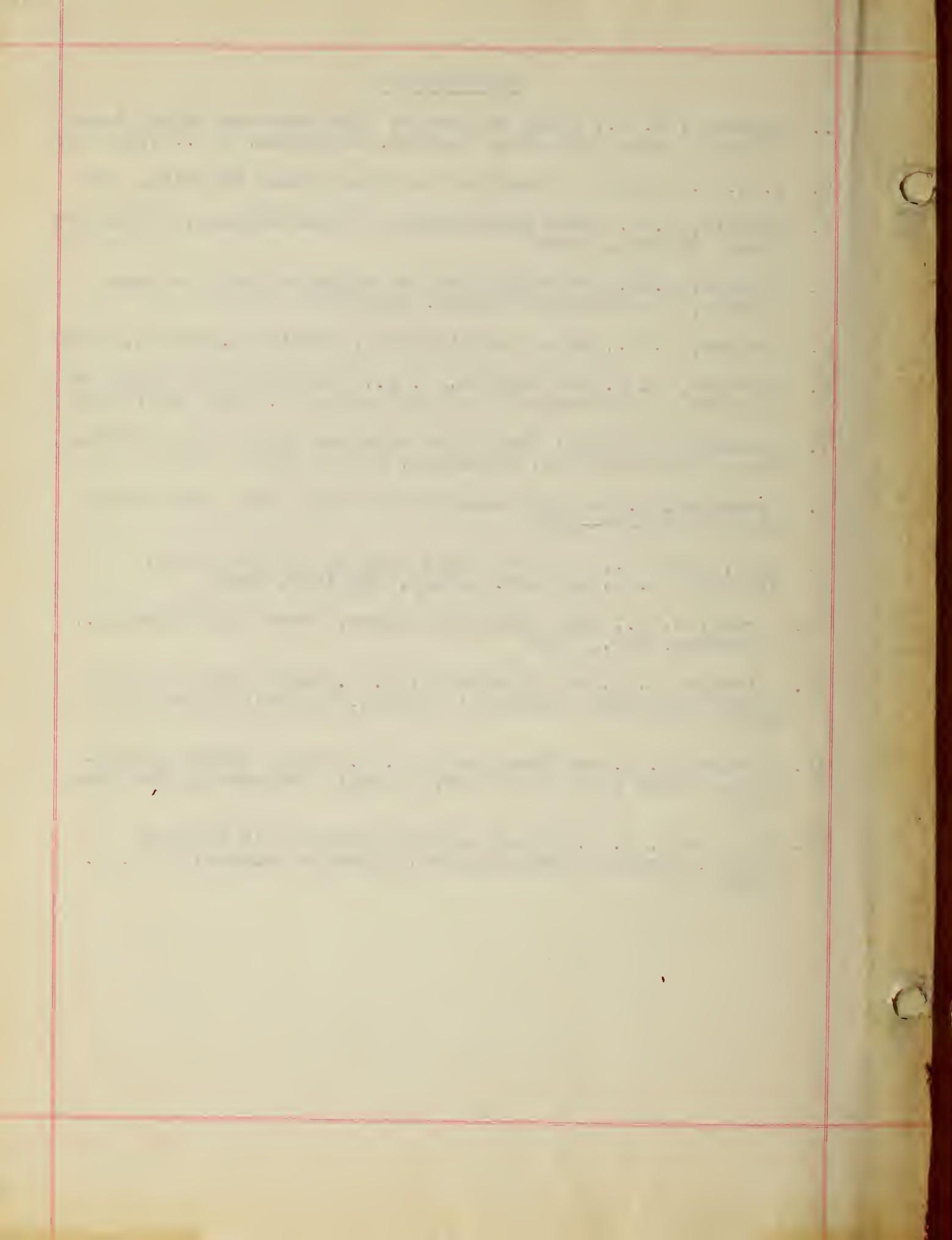


Scale 1" = 6'



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